

MI 123: Clinical Seminar I Lecture #2

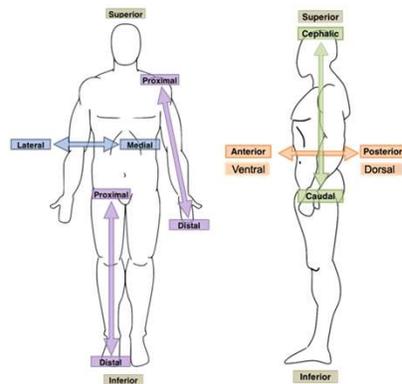
Mrs. Heather Herb

Standard Terms

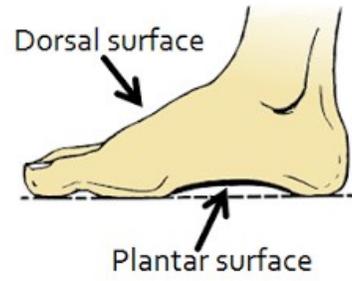
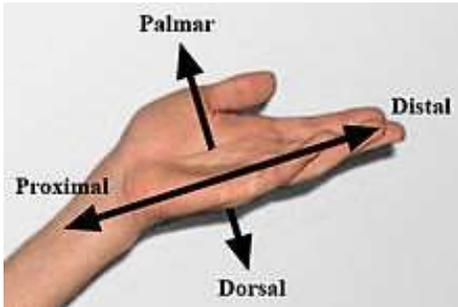
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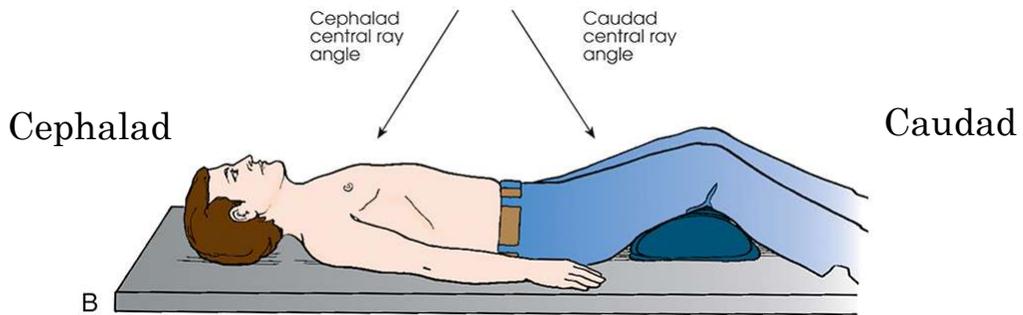
- Anterior (Ventral)
- Posterior (Dorsal)
- Lateral
- Medial
- Superior
- Inferior
- Proximal
- Distal
- Caudad
- Cephalad
- Palmar
- Plantar



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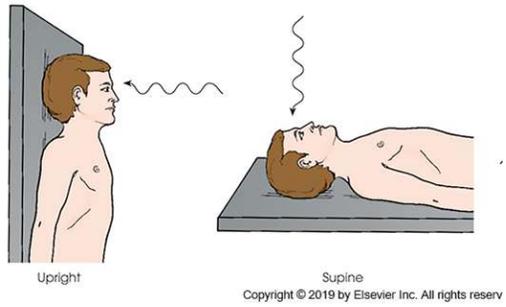
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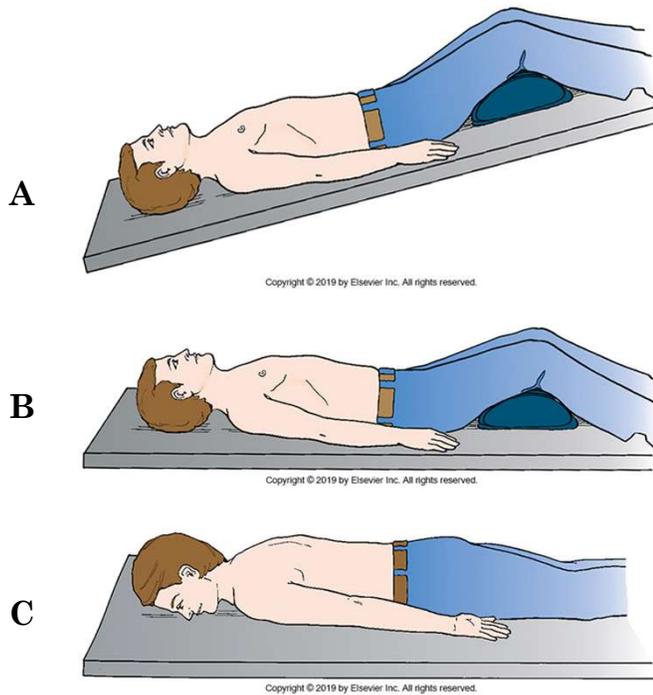
Positions

Identification of the overall posture of the patient or the general body position

- Recumbent
- Supine
- Prone
- Erect / Upright
- Trendelenburg



5



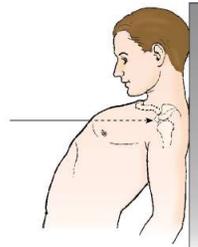
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Radiographic Body Positions

Placement of the body part in relation to the radiographic table or IR during imaging

- Anterior
- Posterior
- Lordotic

- Lateral
- Decubitus
- Oblique



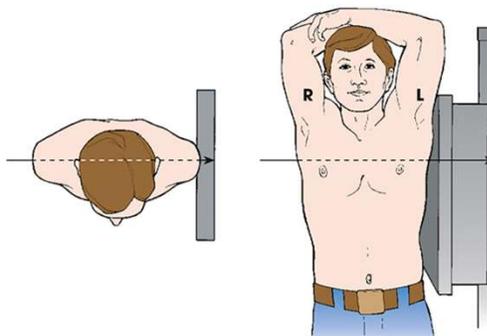
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Radiographic Body Positions

- Lateral
 - Further described as a right or left lateral depending on side against the image receptor

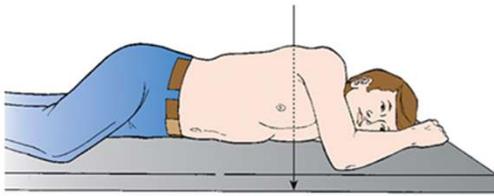
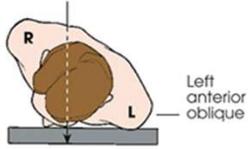
- Oblique
 - Further specified according to patient's relationship to the image receptor.
 - Right Posterior Oblique (RPO)
 - Left Posterior Oblique (LPO)
 - Right Anterior Oblique (RAO)
 - Left Anterior Oblique (LAO)



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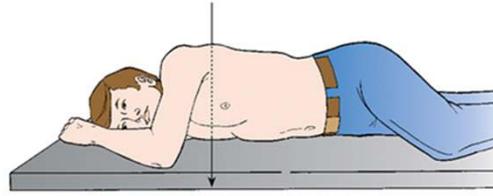
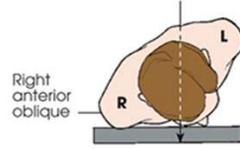
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LAO- left anterior oblique



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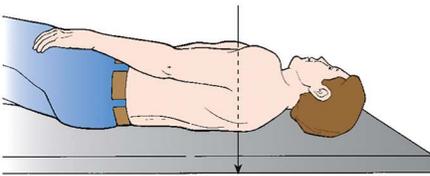
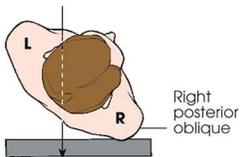
RAO- right anterior oblique



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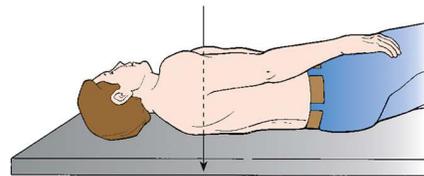
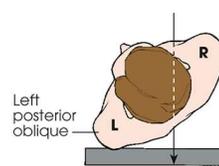
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RPO- right posterior oblique



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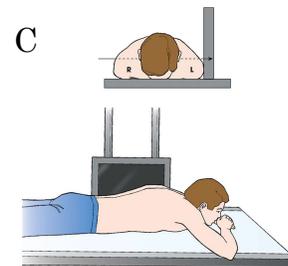
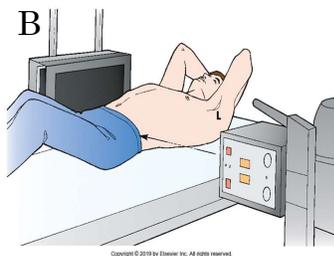
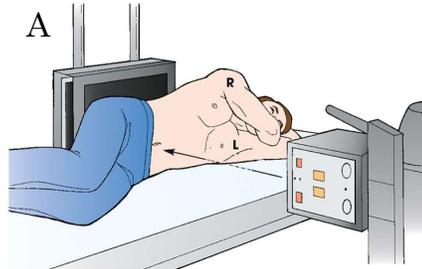
LPO- left posterior oblique



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10

Decubitus



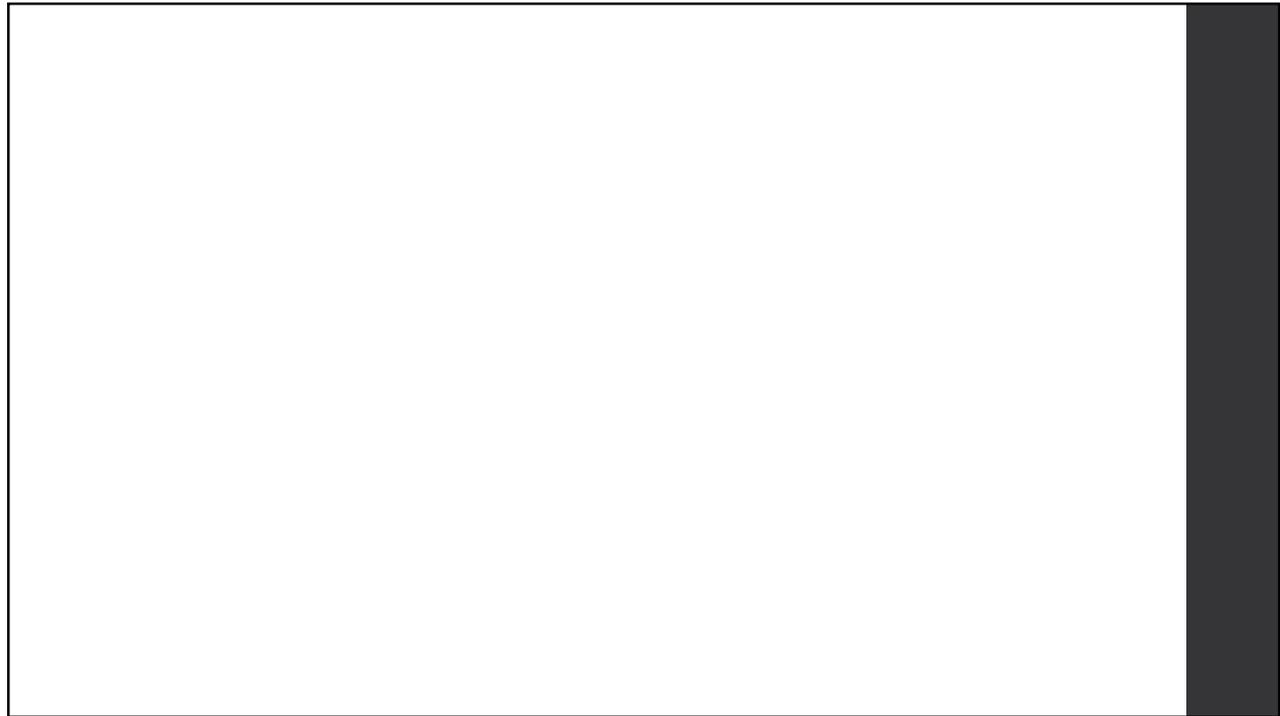
11

Body Movement Terminology

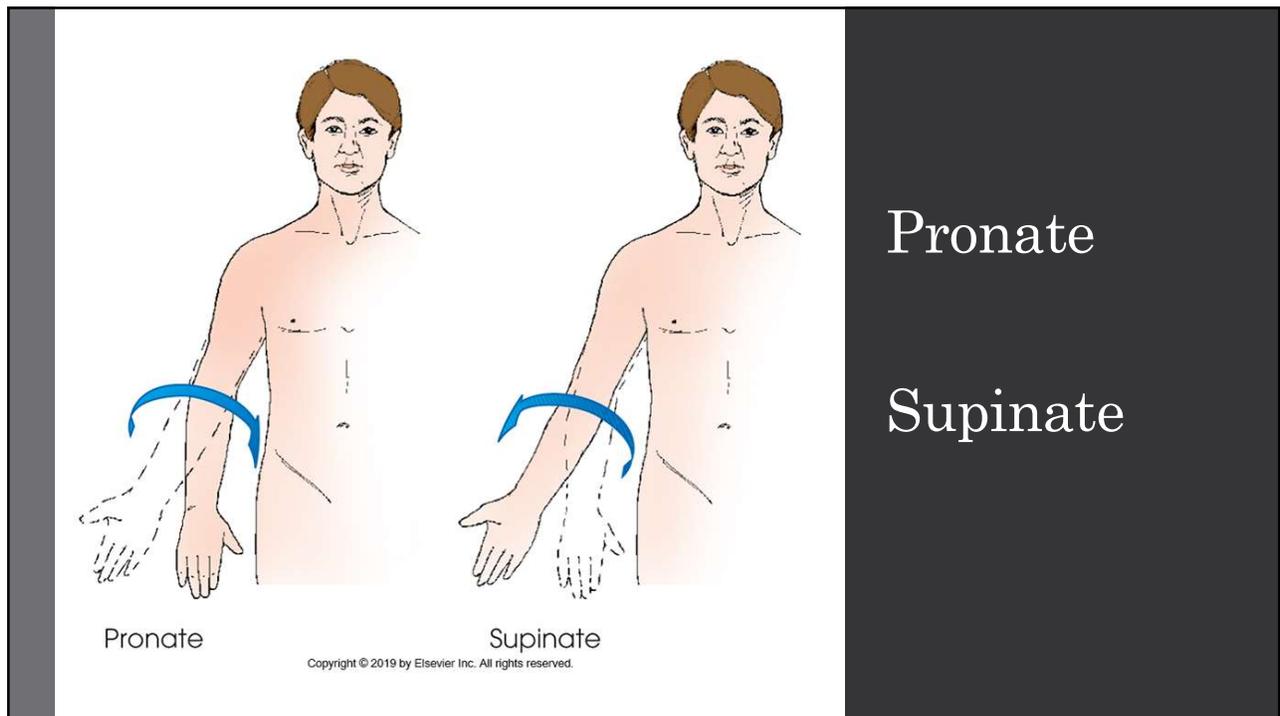
Movement related to limbs used often in positioning description and patient history.

- Supinate
- Pronate
- Abduction
- Adduction
- Eversion
- Inversion
- Extension
- Flexion
- External
- Internal

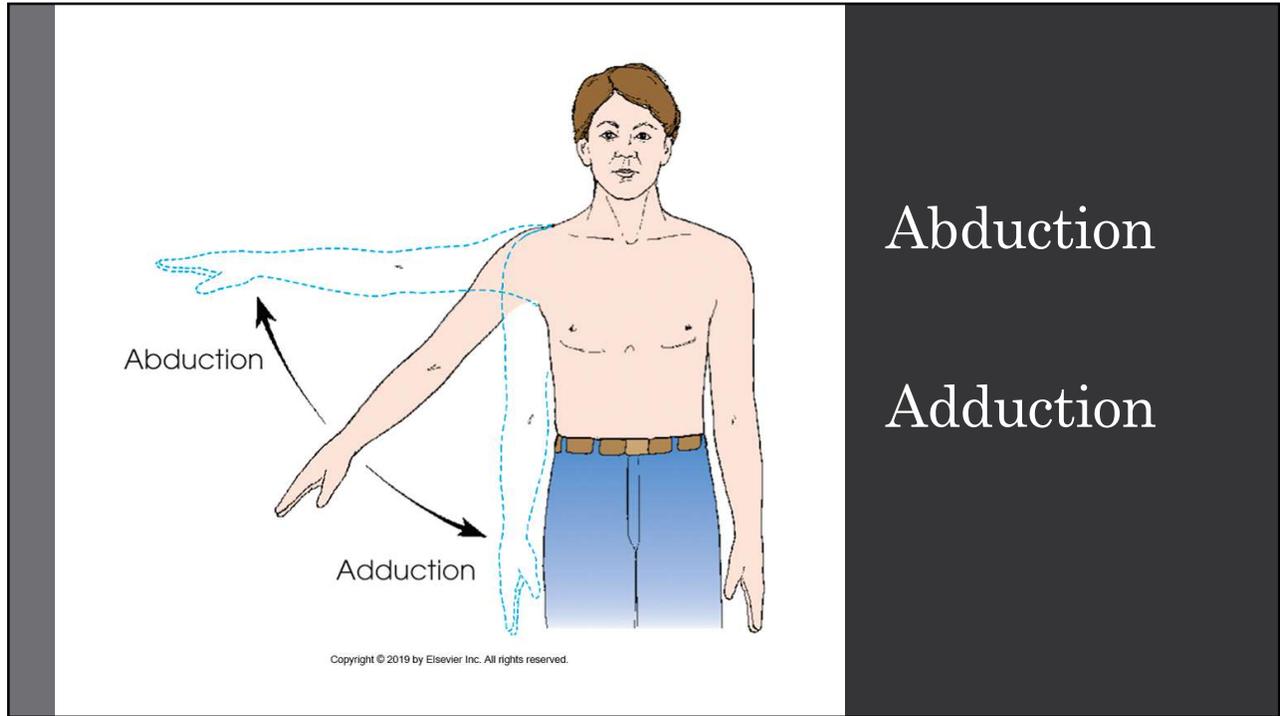
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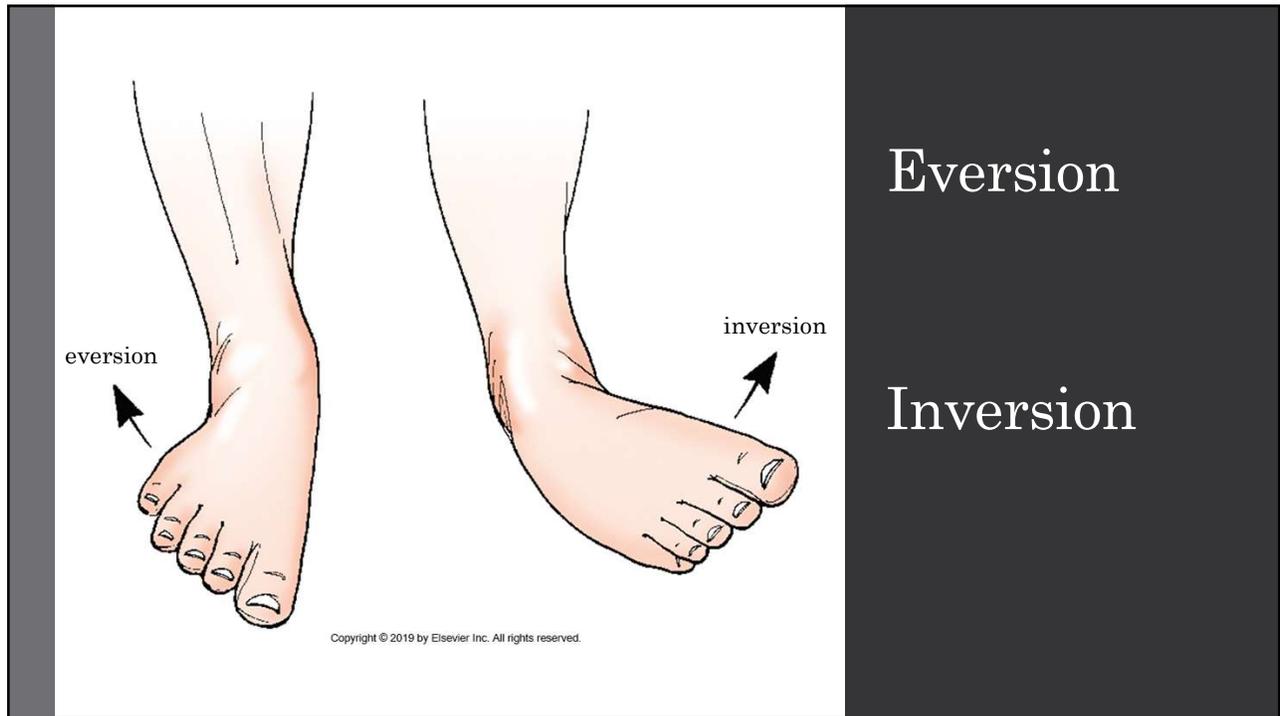
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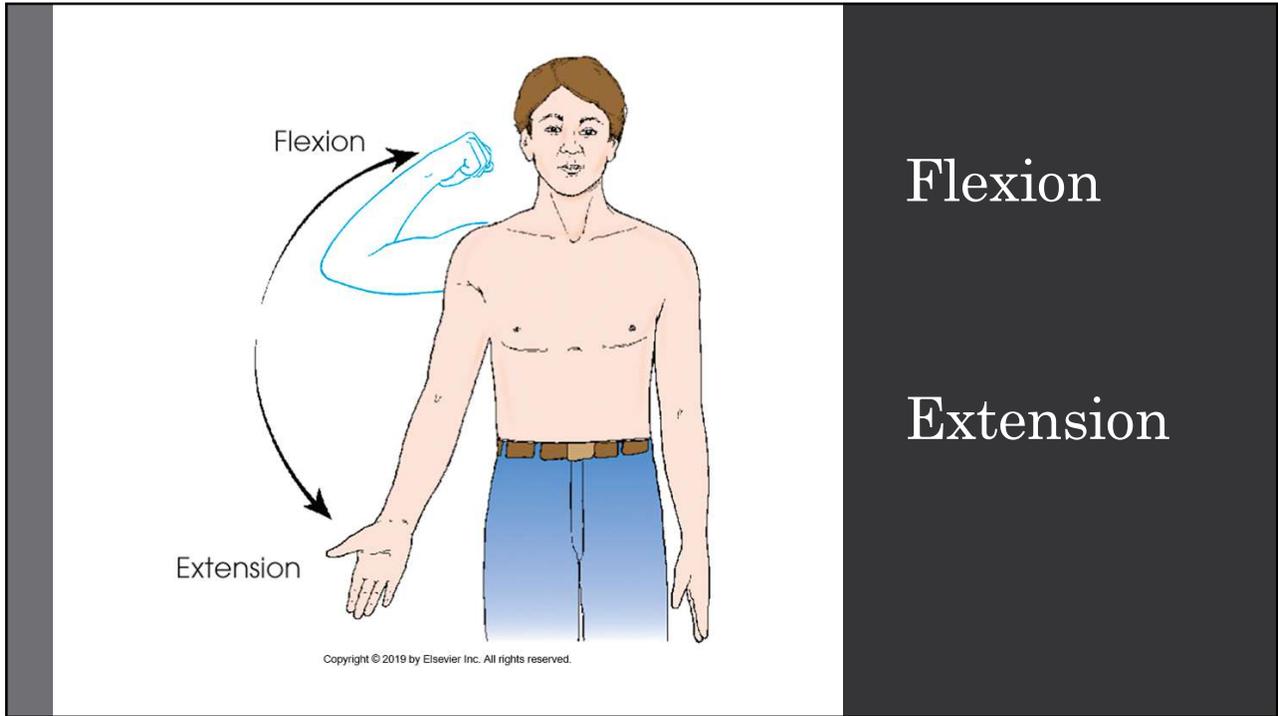
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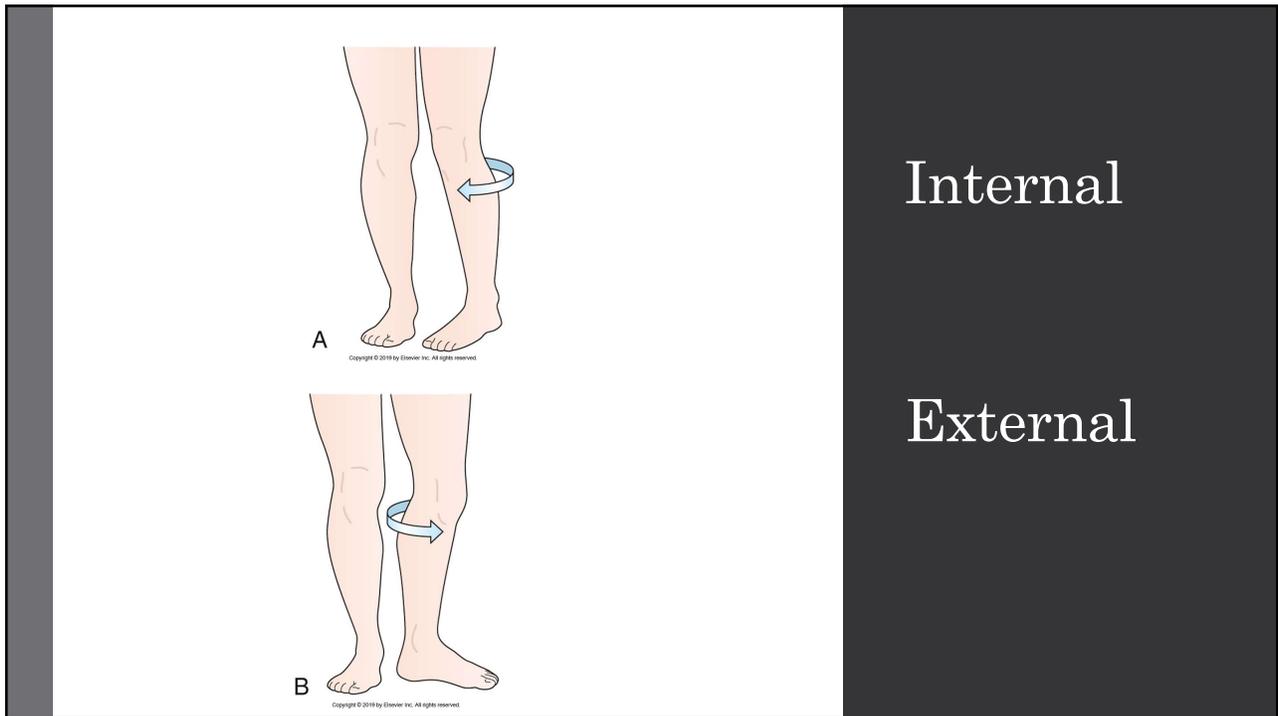
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Flexion

Extension

17



Internal

External

18

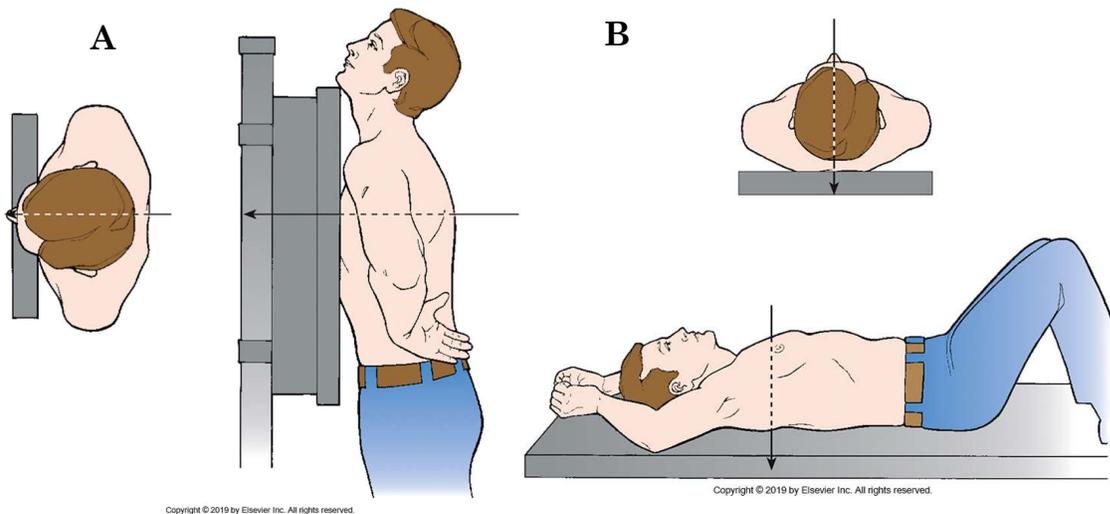
Projection

Described by the **path of the central ray** as it goes through the patient to the IR

- This is based on entrance and exit points in the body and the patient anatomic position
- Regardless of patient position (erect or recumbent)
 - Anteroposterior (AP)
 - Posteroanterior (PA)
 - Lateral Projection
 - Oblique Projection

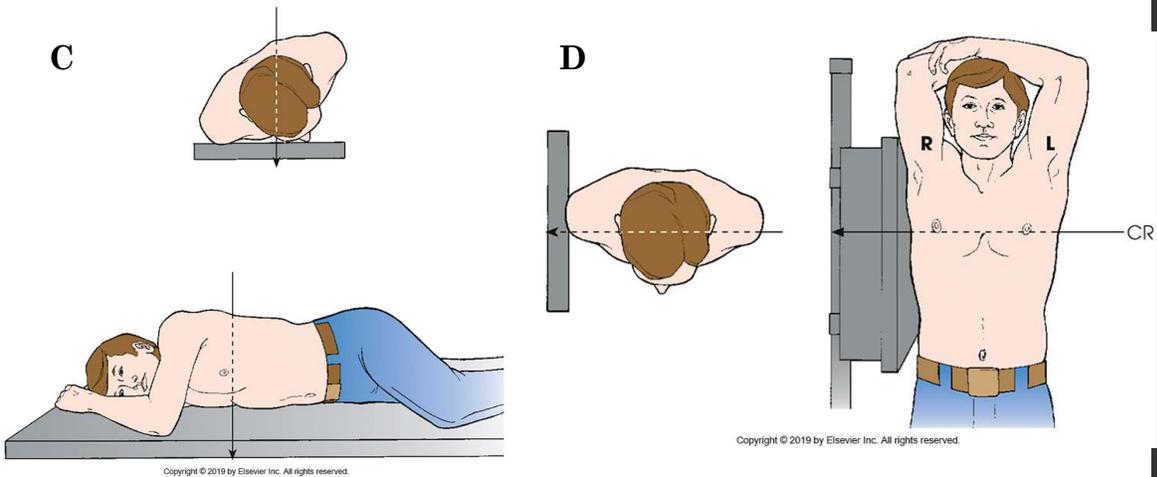
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Projection and Position



20

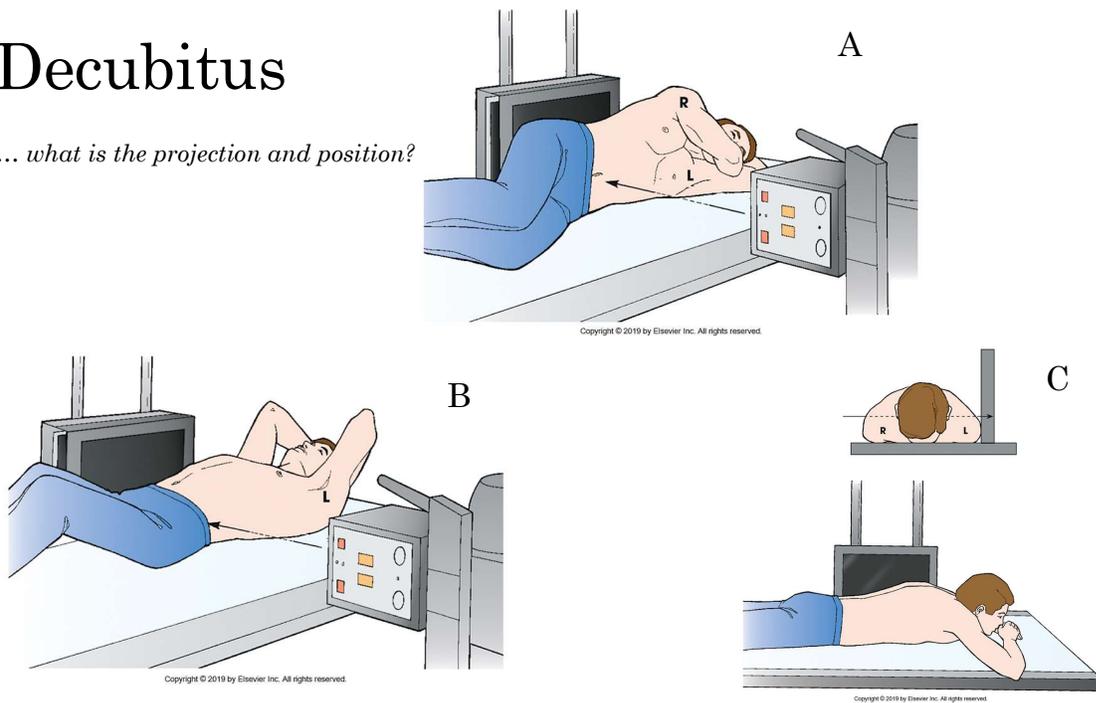
Projection and Position



21

Decubitus

... what is the projection and position?



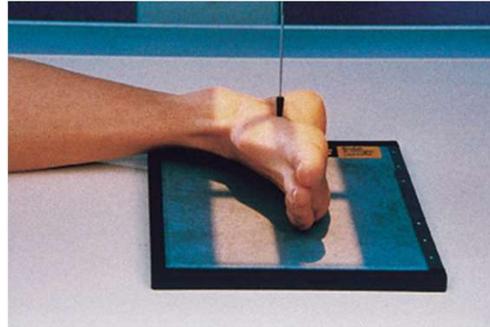
22

Extremities

A



B



23

MI 123: Clinical Seminar I

- ❖ **PROCEDURAL ROUTINE**
- ❖ **DOCUMENTATION/ORDERS**
- ❖ **HISTORY TAKING**
- ❖ **POLICIES:**
 - Patient Valuables
 - "Hand Off" Communication – Hall Pass
 - Imaging Pregnant Patients

24



Steps of a Procedural Routine

25

Types of patients

Private Out (OP) / Outpatient

- Can have a scheduled appointment or be a walk-in
 - Walk in - a patient that does not have an appointment
- Sent in from a physician's office with an order from a physician
- Could result in the need for a Verbal report / Image check

Inpatient

- Nursing Floors
- Intensive Care Units
 - SICU
 - MICU
 - NICU
 - PACU
- Pre-Admission Testing

Emergency Department



26

Procedural
Routine
Pre-
procedure

Review request/control sheet

- **Identify the radiographic procedure requested by the physician**
- **Review the order to evaluate for accuracy**

27



PHYSICIAN ORDER

- A physician orders a certain x-ray for a patient (left hand, right foot, lumbar spine, etc...)
- The physician will:
 - Order the radiographic procedure
 - The order may arrive with the patient (on an order slip/script), be faxed to the facility, or be electronic
 - RH – all radiographic orders expire 14 months after they are prescribed
 - Electronically ordered in EPIC
 - All Inpatients will have orders placed electronically in EPIC

28

Orders

- CPT Code- Current Procedural Terminology (AMA) CHEST PA & LATERAL [71020]
 - Codes that are assigned to every task and service that can be provided to a patient
 - Must be correct for insurance reimbursement/ payments
- ICD-10 Codes- International Statistical Classifications of Diseases
 - Alphanumeric assignments given to diagnosis and symptoms
 - Very detailed and specific

Table 1 – Comparisons of the Diagnosis Code Sets

ICD-9	ICD-10
3-5 characters in length	3-7 characters in length
Approximately 13,000 codes	Approximately 68,000 available codes
First digit may be alpha (E or V) or numeric; digits 2-5 are numeric	Digit 1 is alpha; digits 2 and 3 are numeric; digits 4-7 are alpha or numeric
Limited space for adding new codes	Flexible for adding new codes
Lacks detail	Very specific
Lacks laterality	Has laterality (i.e., codes identifying right vs. left)

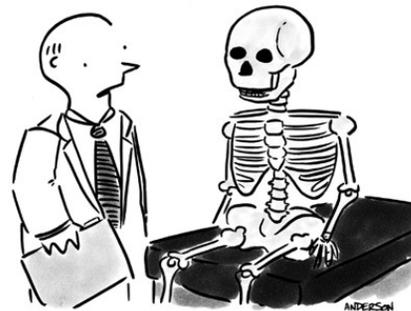
29

Requests

- A paper in which lists:
 - patient name, address, MRN, ordering doctor and phone number, study, codes for charging, numbers to track study in computer (accession number), list of most recent studies performed, etc...
 - Control sheet
 - Requisition
- Can be entered by clerical staff
 - Intake specialist
 - Unit clerks
- Always check the procedure on the request to the physician order to verify procedure
 - If there is a discrepancy, the physician's order is the correct of the two

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"Still, let's do an x-ray just to be sure."

30

Control Sheet vs Request

Reading Hospital
Department of Radiology Diagnostic Order Request

ACCESSION #: 12345678

MRN: 486223

Fox, Hannah

DOB: 8/2/1989, 31 year-old Female
ALLERGIES: Not on File
HEIGHT:
WEIGHT:
ROOM/REG: O2:
METHOD OF TRANSPORT: ISOLATION:
ACCOUNT: 13000993032
CIN: 30002657465
Primary Insurance: IGA-INDEPENDENCE AETNA
Secondary Insurance:
THIS IS NOT YOUR IMAGING ORDER. YOU MUST VERIFY THE PROCEDURE ORDER IN THE ELECTRONIC MEDICAL RECORD.

PROCEDURE:
XR Nasal Bones Routine

PRIORITY: Routine
DIAGNOSIS: Nasal bone pain [882.2 (ICD-10-CM)]
REASON FOR EXAM: Injury
COMMENTS:
PREVIOUS EXAM: XR Foot
ORDERING MD: Jacob S Good
AUTHORIZING MD: Jacob S Good
PCP MD: Physician, No
Other Exams for Today:

RHSIS Medical Imaging Program
Skills Lab

Order Requisition

Name	MRN	DOB	Sex	Unit	Room/Bed	NAB
Boyer, Kyle	1234568	10/9/1977 (43)	F	EO	COS-005	10000123457

XR Cervical Spine 1 View (Order #: 48276167)

Order Information

Order Date	Service	Start Date	Start Time	End Date
12/8/2020	Emergency Medicine	12/8/2020	0730	12/8/2020

Order Details

Frequency	Duration	Priority	Order Class
1 time imaging	1 occurrence	STAT	Ancillary Performed

Order Questions

Question	Answer	Comments
R/O	03 Fracture/subluxation	Keep pt supine until cleared

Sign Symptom: 03 Pain
Note: the selection of "Other" requires further explanation in the Additional Comments section

Order Provider Info

	Office Phone	Pager/beeper	Email
Ordering User: Frank B Moyes, DO	484-628-3637	--	--
Authorizing Provider: Frank B Moyes, DO	484-628-3637	--	--
Attending Provider: Frank B Moyes, DO	484-628-3637	--	--

RHSIS Medical Imaging Program
Skills Lab

31

Children's Clinic of Wyomissing
2240 Ridgewood Rd, Ste 100
Wyomissing, PA 19610-1286

Phone: 610-376-8691
Fax: 610-376-8745

Ordered By: Salvatore Anzalone, MD
Physician ID: NPID: 1871591180

Date: 02/15/2013
Patient Name: Sex: M
Birthdate: 12/03/1995 Patient ID: 123456
Address: Day Tel:
Home Tel:

Insurance: PA BLUE SHIELD Guarantor DOB:
Insured ID: OPB104378160001 Group #: 02536400
Guarantor: Rel to Guar: CHILD

Requisition: Outside Lab
Requisition ID:
Diagnostic Codes:
786.5 CHEST PAIN
CHEST PA & LATERAL [71020]

Salvatore Anzalone

STAT: Fasting: printed 02/15/2013 9:38:24 AM
Call Report: 610-376-8691

Example:
**Outpatient/Written
order= Transcribed**

32

CT Abd / Pelvis W Contrast (Order 88388120)

CT ABD / PELVIS W CONTRAST [88388120]

Electronically signed by: Finn Adamite, MD on 05/06/19 1156

Status: Active

This order may be acted on in another encounter.

Ordering user: Finn Adamite, MD 05/06/19 1156

Ordering provider: Finn Adamite, MD

Authorized by: Finn Adamite, MD

Ordering mode: Standard

Questionnaire

Question	Answer
Is a verbal report needed?	No

Order details

Screening Form

General Information

Patient Name: Kix, Jill	MRN: 3018053
Date of Birth: 9/4/1990	Home Phone: 111-111-1111
Legal Sex: Female	

Procedure	Ordering Provider	Authorizing Provider	Appointment Information
CT ABD / PELVIS W CONTRAST	Finn Adamite, MD	Finn Adamite, MD	5/6/2019 3:30 PM RAD CT A RH RAD CT

Screening Form Questions
No questions have been answered for this form.

*Example: EPIC
Inpatient Order*

Reason for Exam

Abd pain, appendicitis suspected

Priority: Routine

Diagnosis

Rheumatoid osteoperiostitis

Codes

ICD-10-CM: M86.9

ICD-9-CM: 730.20

Comments

33

Military Time

- Military time is based off a 24-hour clock
- Some healthcare facilities utilize military time in documentation



24-Hour Clock (Military Time) Conversion Chart

TIME	24-HOUR TIME	TIME	24-HOUR TIME
12:01 AM	0001	12:01 PM	1201
12:05 AM	0005	12:05 PM	1205
12:30 AM	0030	12:30 PM	1230
12:45 AM	0045	12:45 PM	1245
1:00 AM	0100	1:00 PM	1300
2:00 AM	0200	2:00 PM	1400
3:00 AM	0300	3:00 PM	1500
4:00 AM	0400	4:00 PM	1600
5:00 AM	0500	5:00 PM	1700
6:00 AM	0600	6:00 PM	1800
7:00 AM	0700	7:00 PM	1900
8:00 AM	0800	8:00 PM	2000
9:00 AM	0900	9:00 PM	2100
10:00 AM	1000	10:00 PM	2200
11:00 AM	1100	11:00 PM	2300
12:00 NOON	1200	12:00 MIDNIGHT	2400

34

Procedural Routine Pre-Procedure

Equipment preparation

- Radiographic room is prepared, with necessary supplies in place before the patient arrives in the room (Sheet is placed on the table, shield, sponges, etc.)
- X-Ray tube in position with applicable equipment readily available

Operating console preparation:

- Verify correct selection of patient name/MRN/accession #
- Enter HS# if applicable
- Select proper study/view within the operation console
- Select and verify appropriate kVp, mA and time/mAs, and ionization chambers (as necessary)

35

Procedural Routine Pre-Procedure

Retrieve patient from waiting area

- Introduce self
- Verify patient ID
- Address footwear and question pain meds/stability if applicable

The patient is properly gowned with all unnecessary/interfering clothing, jewelry, dentures, etc. removed

36

Procedural Routine Procedure

- **Escort the patient safely into the room** – Evaluation of medication/footwear, Patient Valuables (Review policy); Hand-Off Communication (Review policy)
- **Introduce yourself to the patient as a student as well as introduction of your technologist/Faculty**
 - Permission to participate in study
- **Re-confirm patient identification** – 2 patient identifiers



37

Procedural Routine Procedure

- **Obtain LMP/Pregnancy Status** – (Review policy)
 - Imaging Pregnant Patient Policy
 - Why? Importance?
 - 8-55 years of age
 - 2-part question
 - **First** day of last menstrual period/cycle?
 - Assess for chance of pregnancy – “Is there any chance of pregnancy?”



38

Obtain History

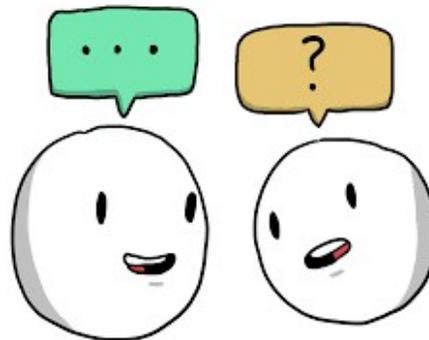
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39

Effective Histories

- Open ended questions
- Probing question to focus on details
- Encourage elaboration
- Give the patient time to collect their thoughts
- Repetition or rewording
- Summarize to verify history



*Includes subjective (perceived) and objective (signs seen) data

40

Procedural Routine Procedure

- **Procedure explained to the patient**
- **Take precautionary measures to ensure patient safety** - application of brakes, footwear
- **Radiation protection practices applied** – appropriate gonadal shielding based on path of central ray
- **Assistance provided to patient during positioning**
- **Collimation appropriate for view**
- **Correctly manipulate equipment to obtain designated centering/projection**
- **Communicate breathing or movement instructions**



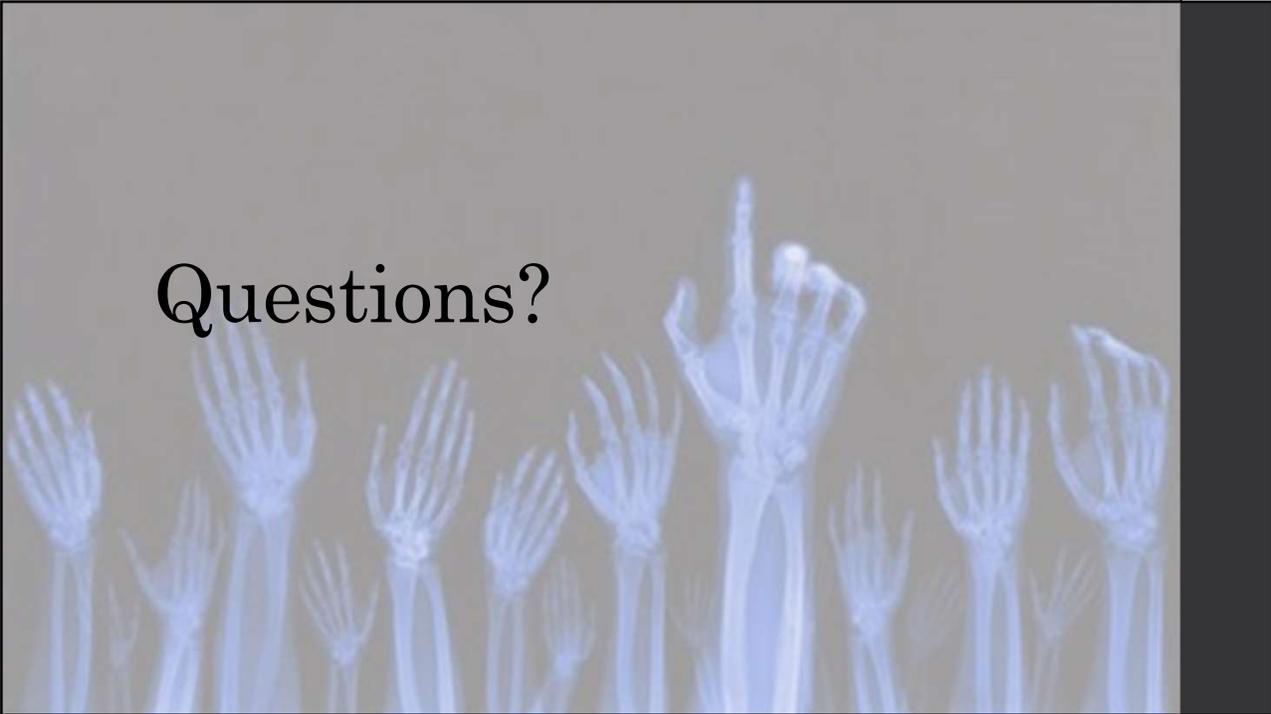
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Procedural Routine Post-Procedure

- **Correctly dismiss patient from procedure**
 - Verbal Report/Image Check
- **Verify images sent to PACS with technologist approval**
- **Complete EPIC documentation**



42



43

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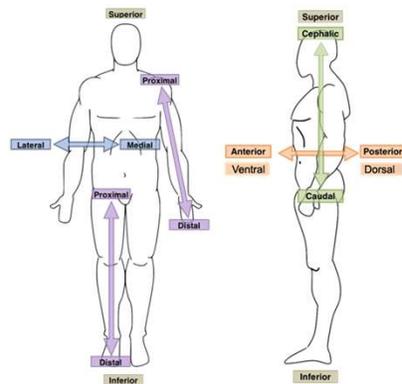
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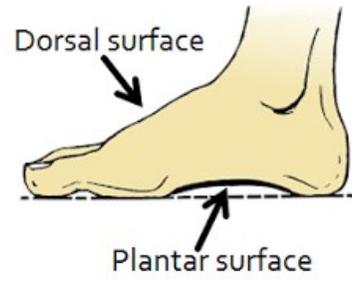
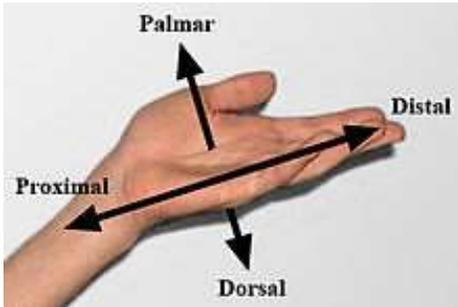
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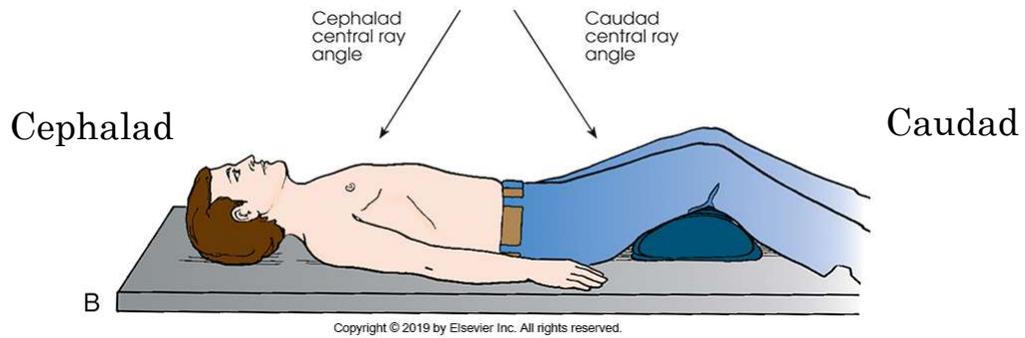
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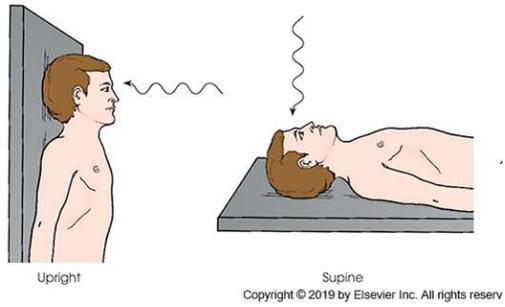


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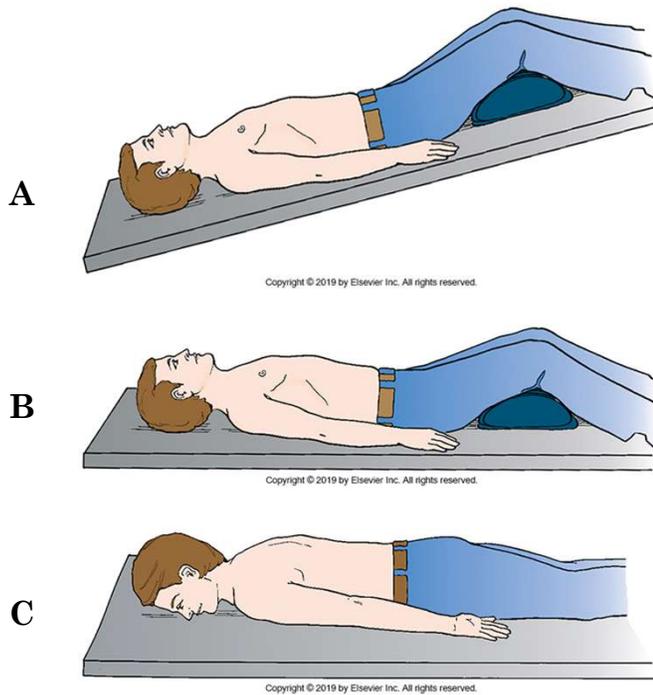
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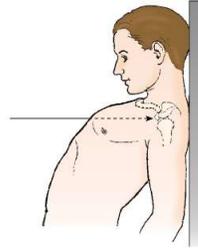
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- Lateral
- Decubitus
- Oblique



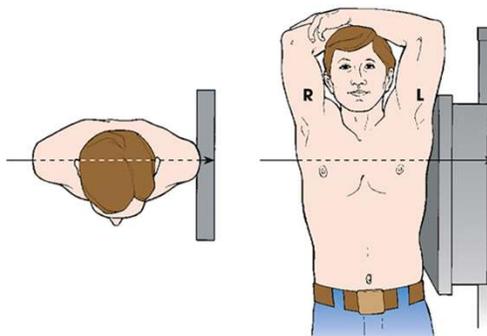
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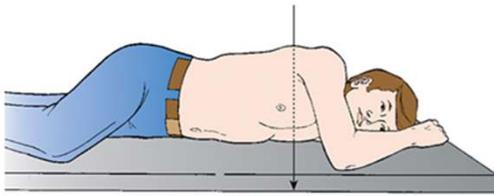
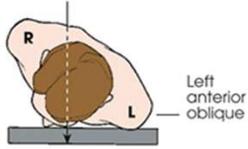
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 - Right Anterior Oblique (RAO)
 - Left Anterior Oblique (LAO)



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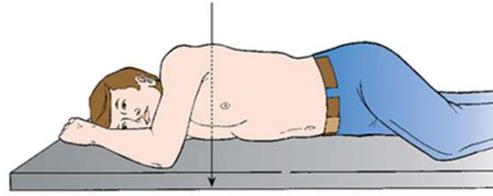
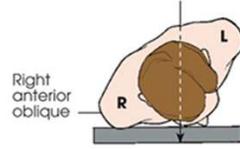
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LAO- left anterior oblique



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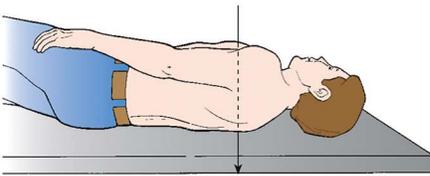
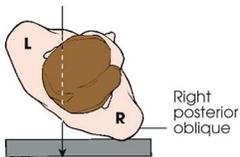
RAO- right anterior oblique



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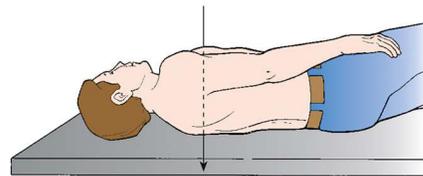
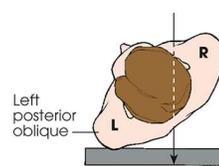
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RPO- right posterior oblique



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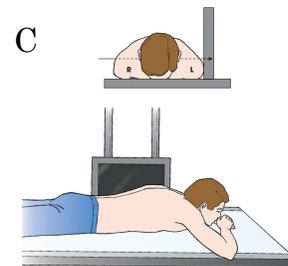
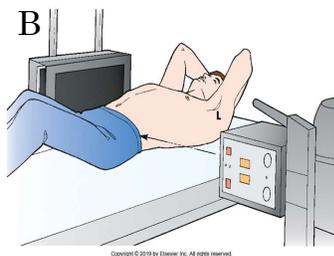
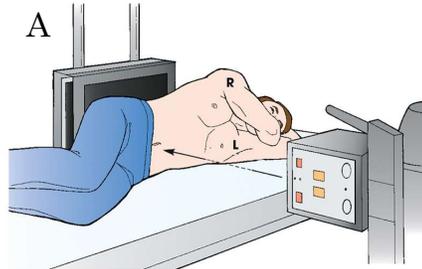
LPO- left posterior oblique



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10

Decubitus



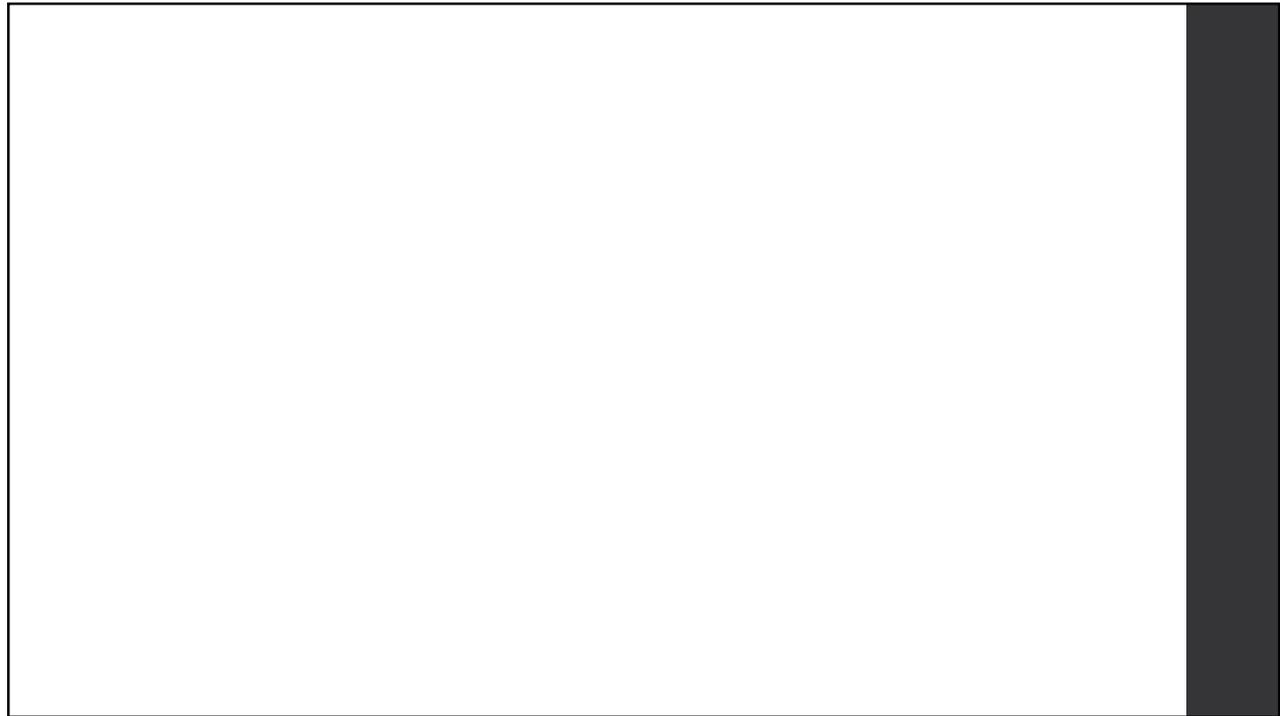
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Body Movement Terminology

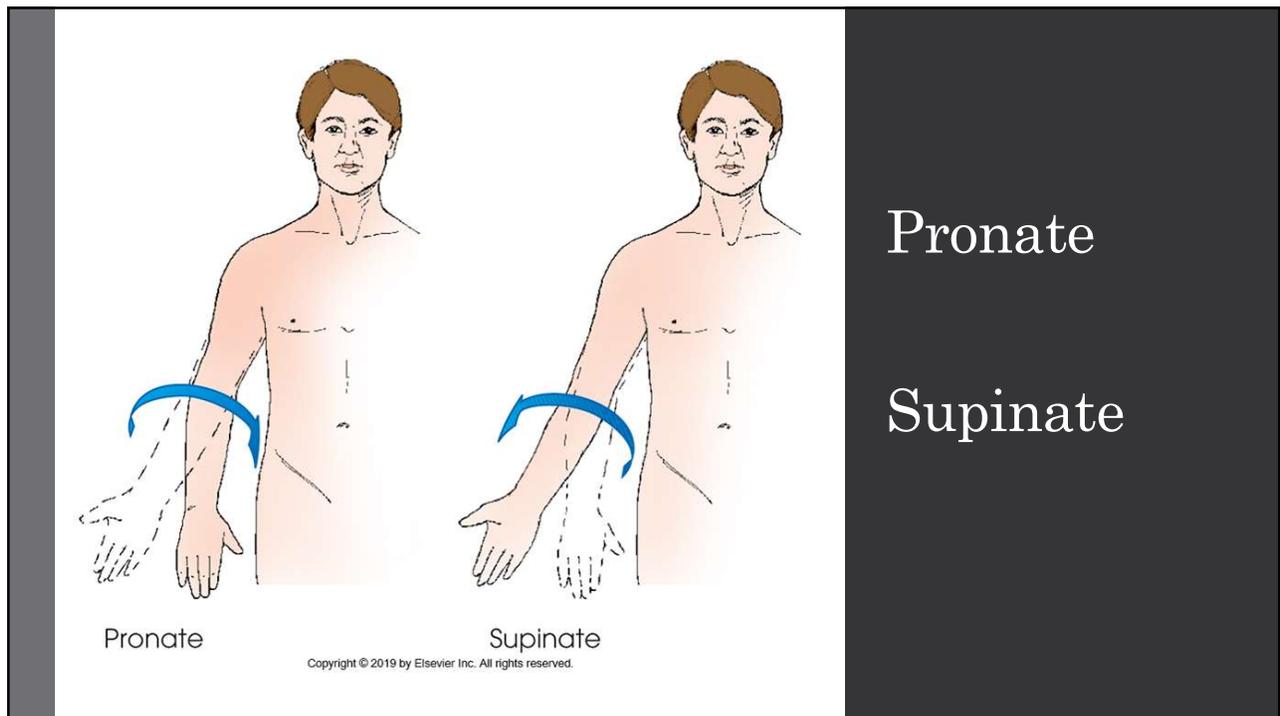
Movement related to limbs used often in positioning description and patient history.

- Supinate
- Pronate
- Abduction
- Adduction
- Eversion
- Inversion
- Extension
- Flexion
- External
- Internal

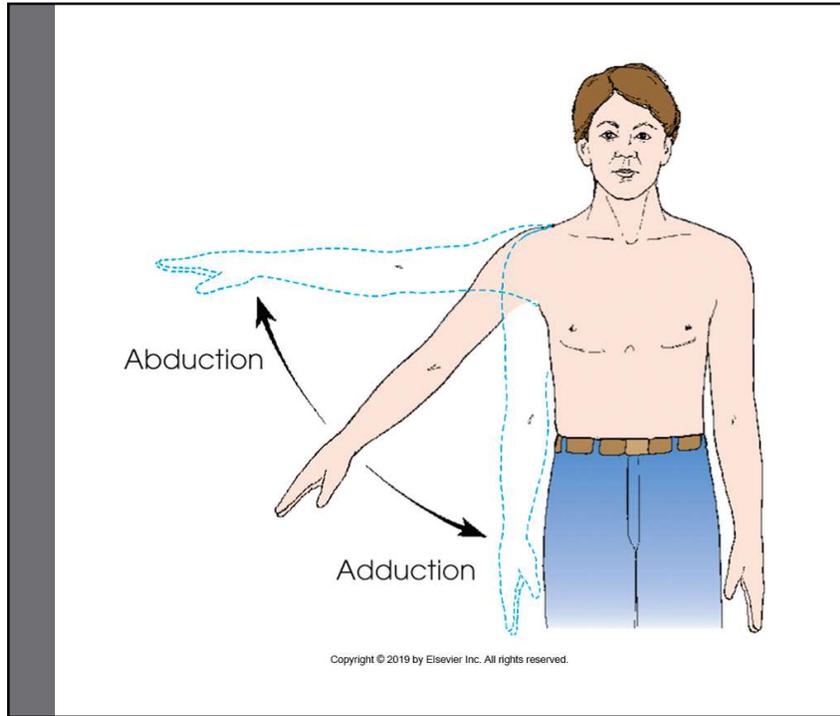
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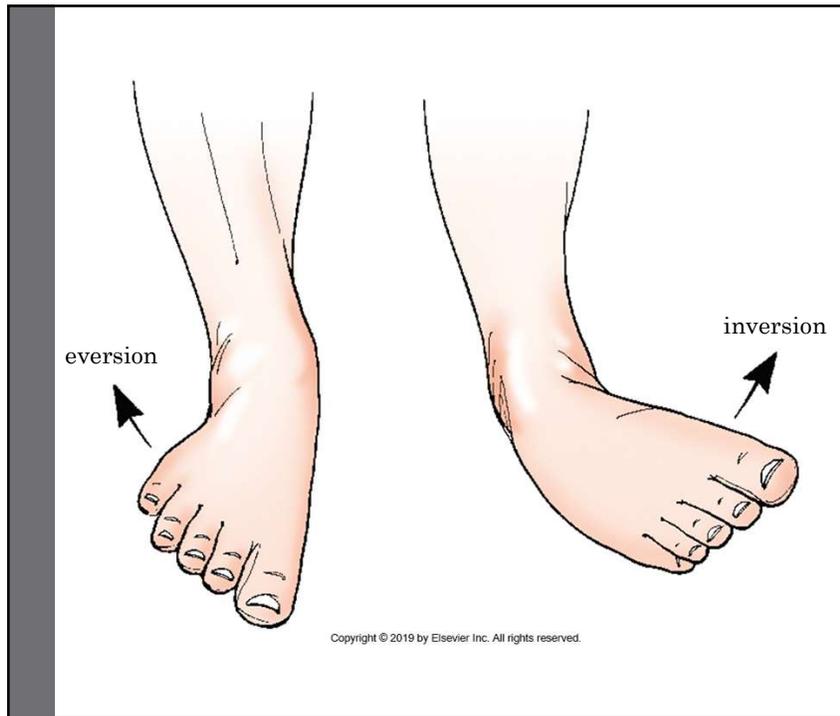
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Abduction

Adduction

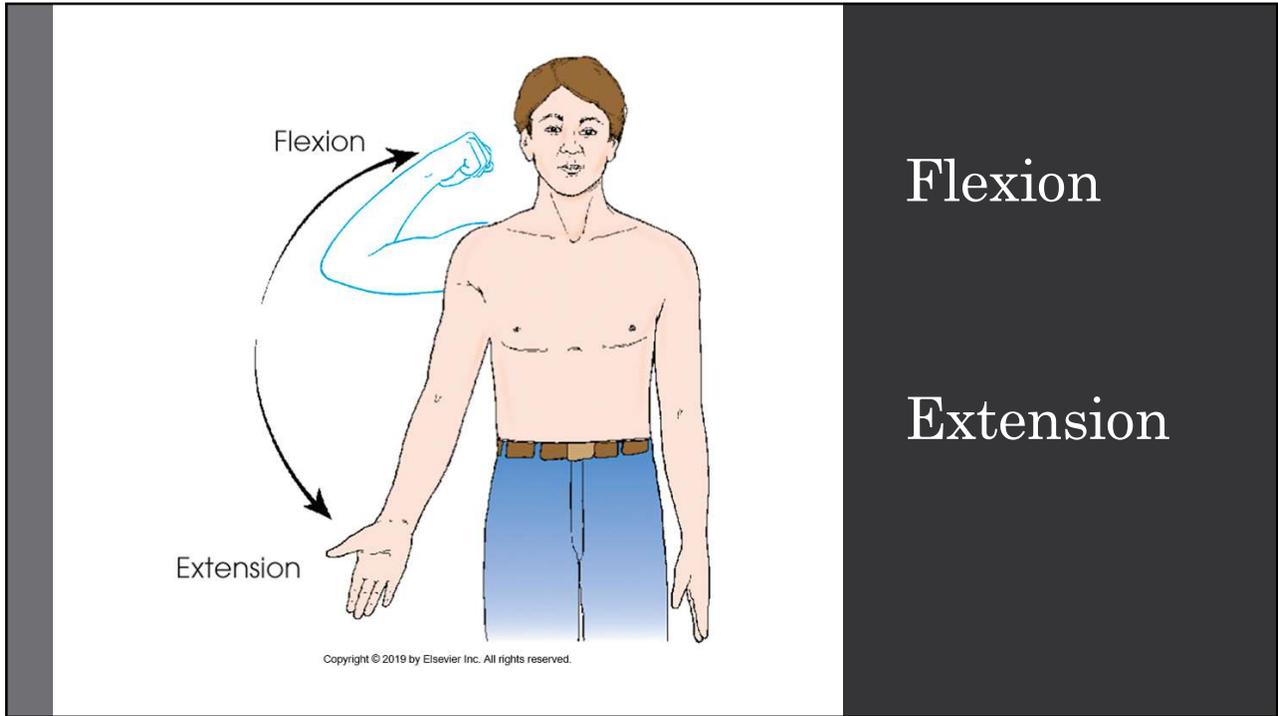
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Eversion

Inversion

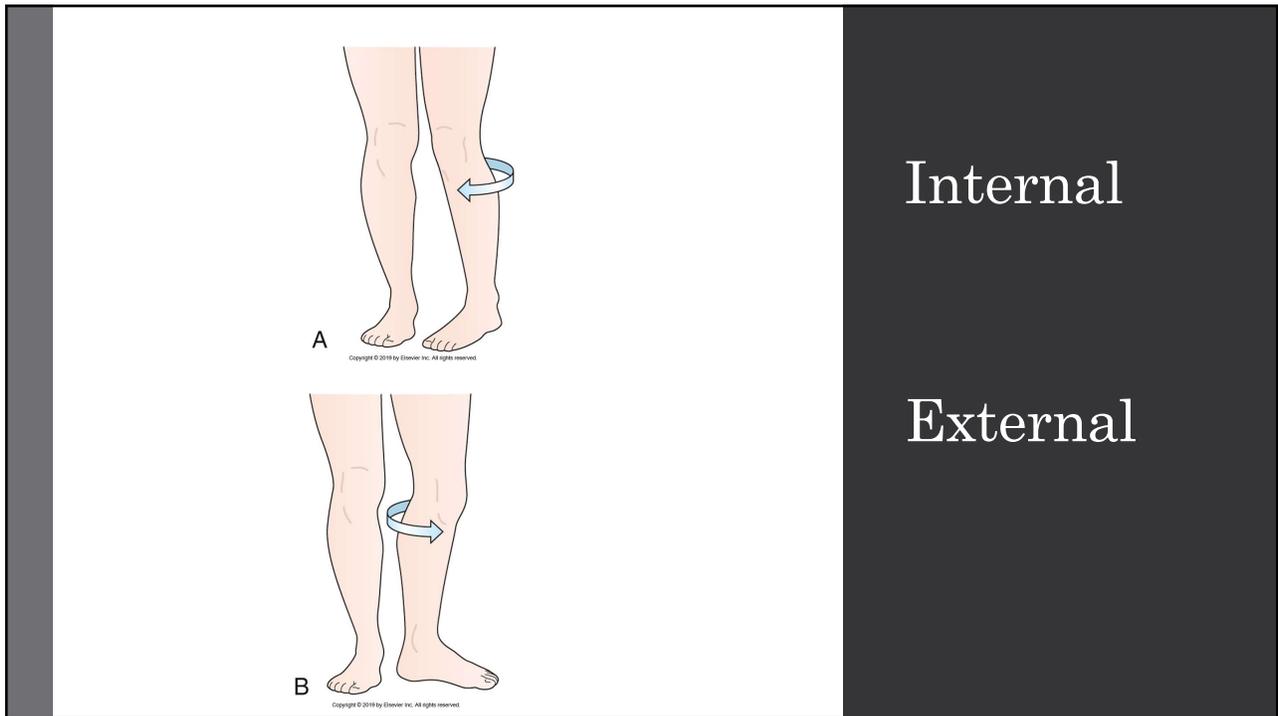
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Flexion

Extension

17



Internal

External

18

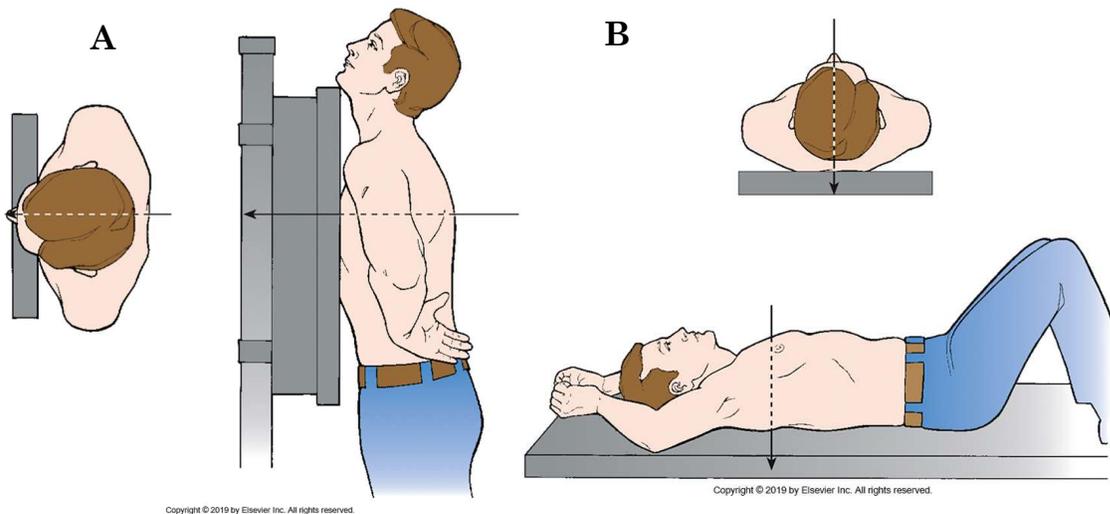
Projection

Described by the **path of the central ray** as it goes through the patient to the IR

- This is based on entrance and exit points in the body and the patient anatomic position
- Regardless of patient position (erect or recumbent)
 - Anteroposterior (AP)
 - Posteroanterior (PA)
 - Lateral Projection
 - Oblique Projection

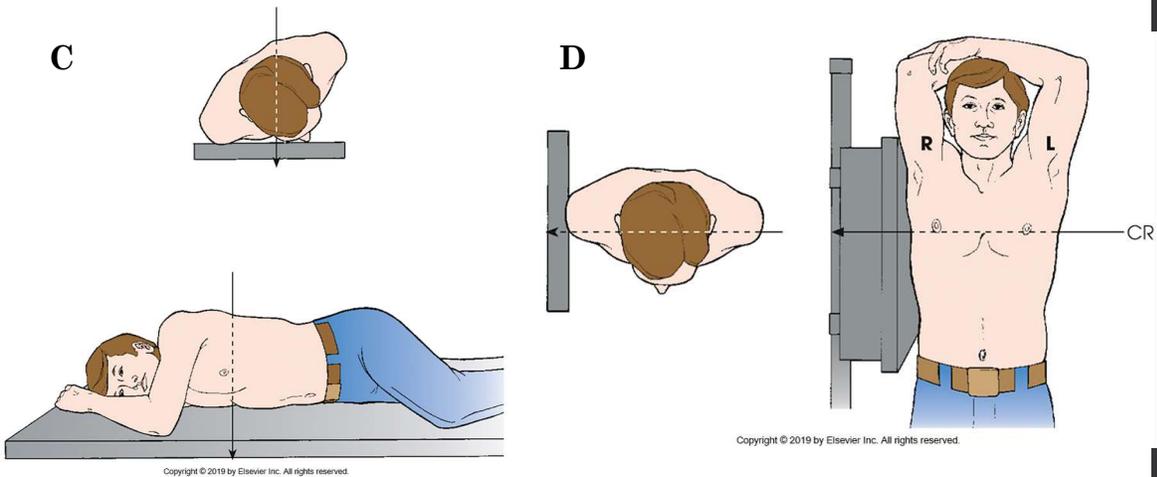
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Projection and Position



20

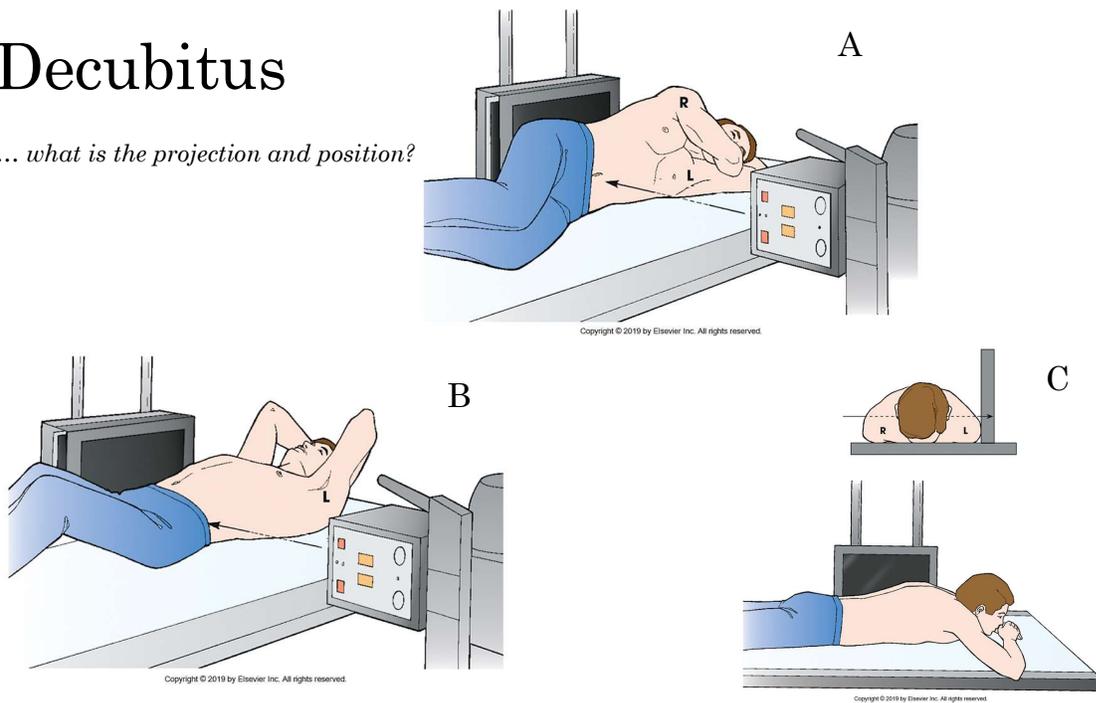
Projection and Position



21

Decubitus

... what is the projection and position?



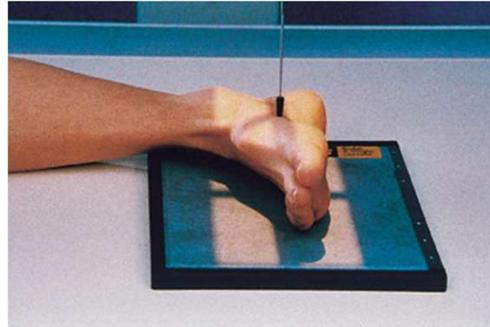
22

Extremities

A



B



23

MI 123: Clinical Seminar I

- ❖ **PROCEDURAL ROUTINE**
- ❖ **DOCUMENTATION/ORDERS**
- ❖ **HISTORY TAKING**
- ❖ **POLICIES:**
 - Patient Valuables
 - "Hand Off" Communication – Hall Pass
 - Imaging Pregnant Patients

24



Steps of a Procedural Routine

25

Types of patients

Private Out (OP) / Outpatient

- Can have a scheduled appointment or be a walk-in
 - Walk in - a patient that does not have an appointment
- Sent in from a physician's office with an order from a physician
- Could result in the need for a Verbal report / Image check

Inpatient

- Nursing Floors
- Intensive Care Units
 - SICU
 - MICU
 - NICU
 - PACU
- Pre-Admission Testing

Emergency Department



26

Procedural
Routine
Pre-
procedure

Review request/control sheet

- **Identify the radiographic procedure requested by the physician**
- **Review the order to evaluate for accuracy**

27



PHYSICIAN ORDER

- A physician orders a certain x-ray for a patient (left hand, right foot, lumbar spine, etc...)
- The physician will:
 - Order the radiographic procedure
 - The order may arrive with the patient (on an order slip/script), be faxed to the facility, or be electronic
 - RH – all radiographic orders expire 14 months after they are prescribed
 - Electronically ordered in EPIC
 - All Inpatients will have orders placed electronically in EPIC

28

Orders

- CPT Code- Current Procedural Terminology (AMA) CHEST PA & LATERAL [71020]
 - Codes that are assigned to every task and service that can be provided to a patient
 - Must be correct for insurance reimbursement/ payments
- ICD-10 Codes- International Statistical Classifications of Diseases
 - Alphanumeric assignments given to diagnosis and symptoms
 - Very detailed and specific

Table 1 – Comparisons of the Diagnosis Code Sets

ICD-9	ICD-10
3-5 characters in length	3-7 characters in length
Approximately 13,000 codes	Approximately 68,000 available codes
First digit may be alpha (E or V) or numeric; digits 2-5 are numeric	Digit 1 is alpha; digits 2 and 3 are numeric; digits 4-7 are alpha or numeric
Limited space for adding new codes	Flexible for adding new codes
Lacks detail	Very specific
Lacks laterality	Has laterality (i.e., codes identifying right vs. left)

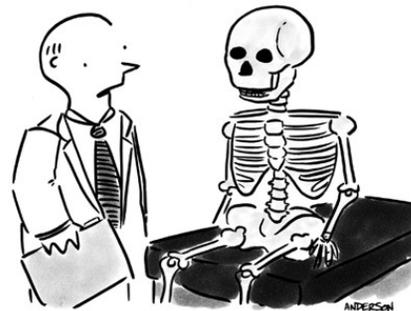
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Requests

- A paper in which lists:
 - patient name, address, MRN, ordering doctor and phone number, study, codes for charging, numbers to track study in computer (accession number), list of most recent studies performed, etc...
 - Control sheet
 - Requisition
- Can be entered by clerical staff
 - Intake specialist
 - Unit clerks
- Always check the procedure on the request to the physician order to verify procedure
 - If there is a discrepancy, the physician's order is the correct of the two

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"Still, let's do an x-ray just to be sure."

30

Control Sheet vs Request

Reading Hospital
Department of Radiology Diagnostic Order Request

ACCESSION #: 12345678

MRN: 486223

Fox, Hannah

DOB: 8/2/1989, 31 year-old Female
ALLERGIES: Not on File
HEIGHT:
WEIGHT:
ROOM/REQ: O2:
METHOD OF TRANSPORT: ISOLATION:
ACCOUNT: 13000993032
CIN: 30002657465
Primary Insurance: IGA-INDEPENDENCE AETNA
Secondary Insurance:
THIS IS NOT YOUR IMAGING ORDER. YOU MUST VERIFY THE PROCEDURE ORDER IN THE ELECTRONIC MEDICAL RECORD.

PROCEDURE:
XR Nasal Bones Routine

PRIORITY: Routine
DIAGNOSIS: Nasal bone pain [882.2 (ICD-10-CM)]
REASON FOR EXAM: Injury
COMMENTS:
PREVIOUS EXAM: XR Foot
ORDERING MD: Jacob S Good
AUTHORIZING MD: Jacob S Good
PCP MD: Physician, No
Other Exams for Today:

RHSIS Medical Imaging Program
Skills Lab

Order Requisition

Name	MRN	DOB	Sex	Unit	Room/Bed	NAB
Boyer, Kyle	1234568	10/01/1977 (43)	F	EO	COS-005	1000002123457

XR Cervical Spine 1 View (Order #: 48276167)

Order Information

Order Date	Service	Start Date	Start Time	End Date
12/8/2020	Emergency Medicine	12/8/2020	0730	12/8/2020

Order Details

Frequency	Duration	Priority	Order Class
1 time imaging	1 occurrence	STAT	Ancillary Performed

Order Questions

Question	Answer	Comments
R/O	03 Fracture/subluxation	Keep pt supine until cleared

Sign Symptom: 03 Pain
Note: the selection of "Other requires further explanation in the Additional Comments section"

Order Provider Info

	Office Phone	Pager/Beeper	Email
Ordering User	Frank B Moyes, DO 484-628-3637	--	--
Authorizing Provider	Frank B Moyes, DO 484-628-3637	--	--
Attending Provider	Frank B Moyes, DO 484-628-3637	--	--

RHSIS Medical Imaging Program
Skills Lab

31

Children's Clinic of Wyomissing
2240 Ridgewood Rd, Ste 100
Wyomissing, PA 19610-1286

Phone: 610-376-8691
Fax: 610-376-8745

Ordered By: Salvatore Anzalone, MD
Physician ID: NPID: 1871591180

Date: 02/15/2013
Patient Name: Sex: M
Birthdate: 12/03/1995 Patient ID: 123456
Address: Day Tel:
Home Tel:

Insurance: PA BLUE SHIELD Guarantor DOB:
Insured ID: OPB104378160001 Group #: 02536400
Guarantor: Rel to Guar: CHILD

Requisition: Outside Lab
Requisition ID:
Diagnostic Codes:
786.5 CHEST PAIN
CHEST PA & LATERAL [71020]

Salvatore Anzalone

STAT: Fasting: printed 02/15/2013 9:38:24 AM
Call Report: 610-376-8691

Example:
**Outpatient/Written
order= Transcribed**

32

CT Abd / Pelvis W Contrast (Order 88388120)

CT ABD / PELVIS W CONTRAST [88388120]

Electronically signed by: Finn Adamite, MD on 05/06/19 1156

Status: Active

This order may be acted on in another encounter.

Ordering user: Finn Adamite, MD 05/06/19 1156

Ordering provider: Finn Adamite, MD

Authorized by: Finn Adamite, MD

Ordering mode: Standard

Questionnaire

Question	Answer
Is a verbal report needed?	No

Order details

Screening Form

General Information

Patient Name: Kix, Jill	MRN: 3018053
Date of Birth: 9/4/1990	Home Phone: 111-111-1111
Legal Sex: Female	

Procedure	Ordering Provider	Authorizing Provider	Appointment Information
CT ABD / PELVIS W CONTRAST	Finn Adamite, MD	Finn Adamite, MD	5/6/2019 3:30 PM RAD CT A RH RAD CT

Screening Form Questions

No questions have been answered for this form.

*Example: EPIC
Inpatient Order*

Reason for Exam

Abd pain, appendicitis suspected

Priority: Routine

Diagnosis

Rheumatoid osteoperiostitis

Codes

ICD-10-CM: M86.9

ICD-9-CM: 730.20

Comments

33

Military Time

- Military time is based off a 24-hour clock
- Some healthcare facilities utilize military time in documentation



24-Hour Clock (Military Time) Conversion Chart

TIME	24-HOUR TIME	TIME	24-HOUR TIME
12:01 AM	0001	12:01 PM	1201
12:05 AM	0005	12:05 PM	1205
12:30 AM	0030	12:30 PM	1230
12:45 AM	0045	12:45 PM	1245
1:00 AM	0100	1:00 PM	1300
2:00 AM	0200	2:00 PM	1400
3:00 AM	0300	3:00 PM	1500
4:00 AM	0400	4:00 PM	1600
5:00 AM	0500	5:00 PM	1700
6:00 AM	0600	6:00 PM	1800
7:00 AM	0700	7:00 PM	1900
8:00 AM	0800	8:00 PM	2000
9:00 AM	0900	9:00 PM	2100
10:00 AM	1000	10:00 PM	2200
11:00 AM	1100	11:00 PM	2300
12:00 NOON	1200	12:00 MIDNIGHT	2400

34

Procedural Routine Pre-Procedure

Equipment preparation

- Radiographic room is prepared, with necessary supplies in place before the patient arrives in the room (Sheet is placed on the table, shield, sponges, etc.)
- X-Ray tube in position with applicable equipment readily available

Operating console preparation:

- Verify correct selection of patient name/MRN/accession #
- Enter HS# if applicable
- Select proper study/view within the operation console
- Select and verify appropriate kVp, mA and time/mAs, and ionization chambers (as necessary)

35

Procedural Routine Pre-Procedure

Retrieve patient from waiting area

- Introduce self
- Verify patient ID
- Address footwear and question pain meds/stability if applicable

The patient is properly gowned with all unnecessary/interfering clothing, jewelry, dentures, etc. removed

36

Procedural Routine Procedure

- **Escort the patient safely into the room** – Evaluation of medication/footwear, Patient Valuables (Review policy); Hand-Off Communication (Review policy)
- **Introduce yourself to the patient as a student as well as introduction of your technologist/Faculty**
 - Permission to participate in study
- **Re-confirm patient identification** – 2 patient identifiers



37

Procedural Routine Procedure

- **Obtain LMP/Pregnancy Status** – (Review policy)
 - Imaging Pregnant Patient Policy
 - Why? Importance?
 - 8-55 years of age
 - 2-part question
 - **First** day of last menstrual period/cycle?
 - Assess for chance of pregnancy – “Is there any chance of pregnancy?”



38

Obtain History

Sacred Seven

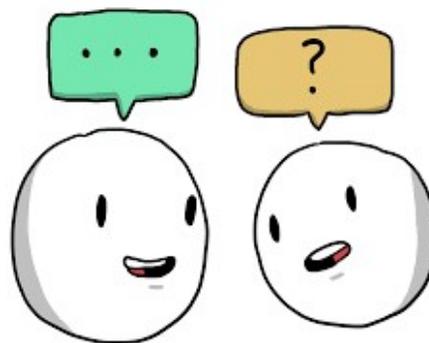


39

Effective Histories

- Open ended questions
- Probing question to focus on details
- Encourage elaboration
- Give the patient time to collect their thoughts
- Repetition or rewording
- Summarize to verify history

*Includes subjective (perceived) and objective (signs seen) data



40

Procedural Routine Procedure

- **Procedure explained to the patient**
- **Take precautionary measures to ensure patient safety** - application of brakes, footwear
- **Radiation protection practices applied** – appropriate gonadal shielding based on path of central ray
- **Assistance provided to patient during positioning**
- **Collimation appropriate for view**
- **Correctly manipulate equipment to obtain designated centering/projection**
- **Communicate breathing or movement instructions**



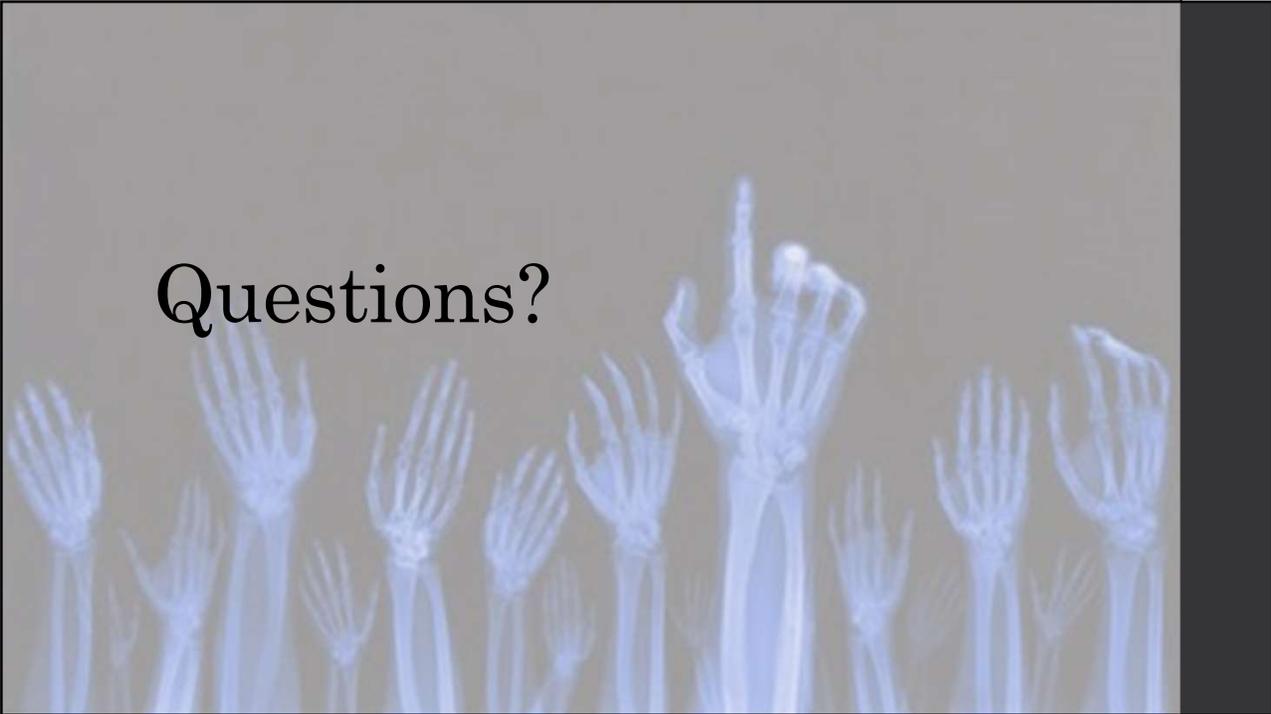
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Procedural Routine Post-Procedure

- **Correctly dismiss patient from procedure**
 - Verbal Report/Image Check
- **Verify images sent to PACS with technologist approval**
- **Complete EPIC documentation**



42



43

MI 123: Clinical Seminar I Lecture #2

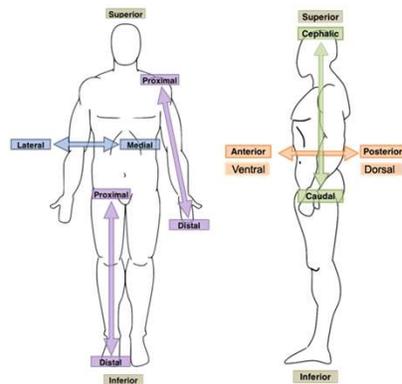
Mrs. Heather Herb

Standard Terms

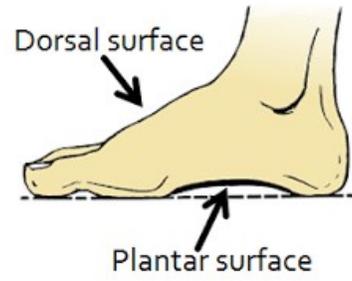
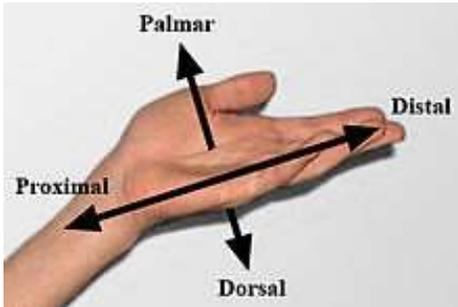
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Standard Terms

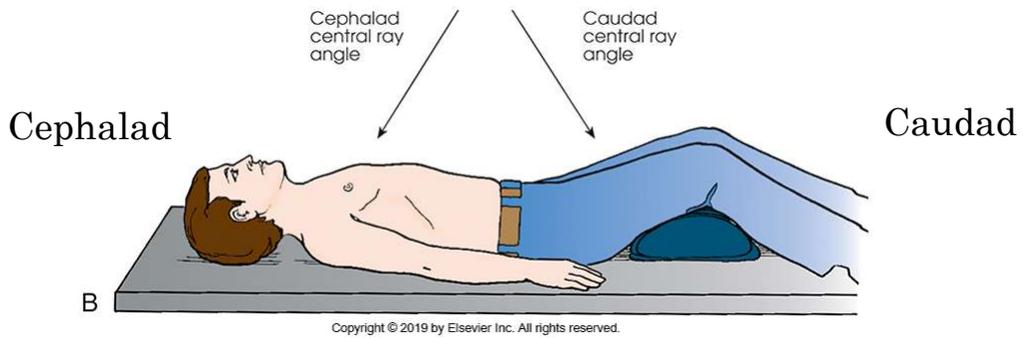
- Anterior (Ventral)
- Posterior (Dorsal)
- Lateral
- Medial
- Superior
- Inferior
- Proximal
- Distal
- Caudad
- Cephalad
- Palmar
- Plantar



2



3

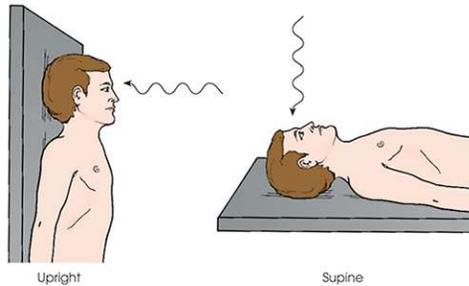


4

Positions

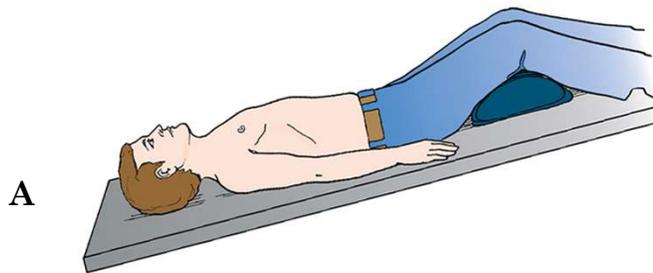
Identification of the overall posture of the patient or the general body position

- Recumbent
- Supine
- Prone
- Erect / Upright
- Trendelenburg

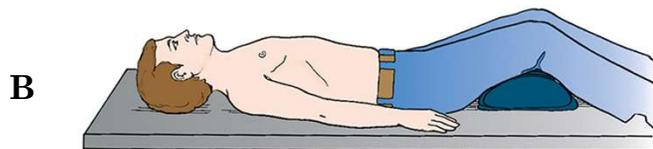


Supine
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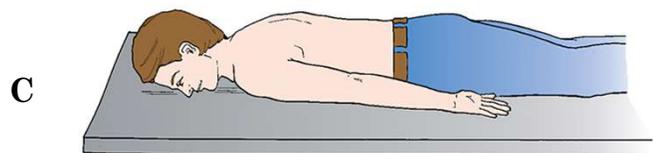
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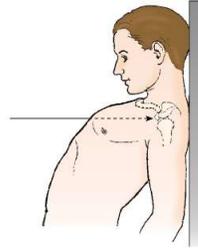
6

Radiographic Body Positions

Placement of the body part in relation to the radiographic table or IR during imaging

- Anterior
- Posterior
- Lordotic

- Lateral
- Decubitus
- Oblique



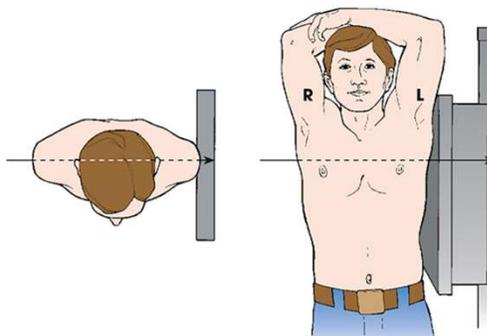
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Radiographic Body Positions

- Lateral
 - Further described as a right or left lateral depending on side against the image receptor

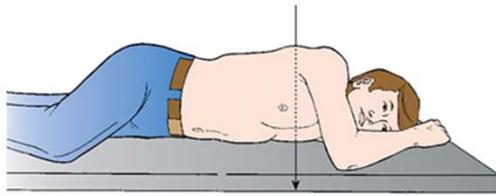
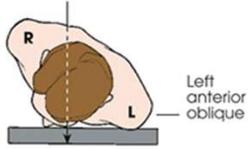
- Oblique
 - Further specified according to patient's relationship to the image receptor.
 - Right Posterior Oblique (RPO)
 - Left Posterior Oblique (LPO)
 - Right Anterior Oblique (RAO)
 - Left Anterior Oblique (LAO)



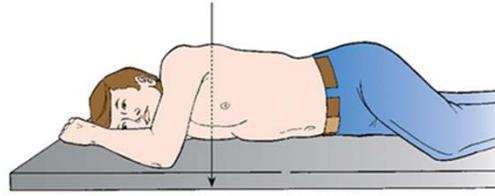
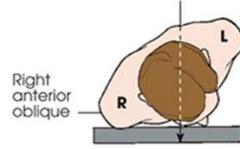
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8

LAO- left anterior oblique

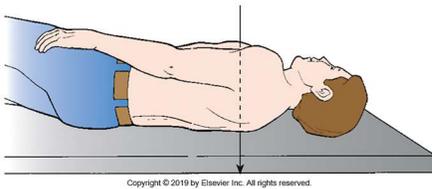
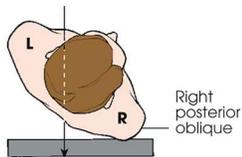


RAO- right anterior oblique

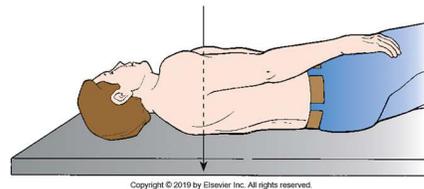
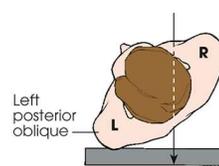


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RPO- right posterior oblique

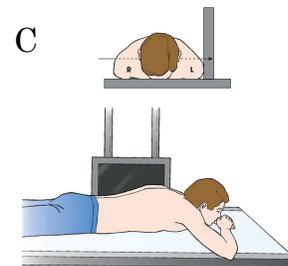
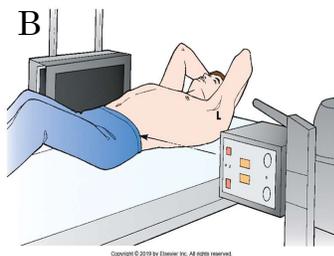
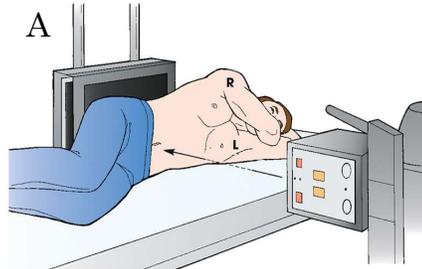


LPO- left posterior oblique



10

Decubitus



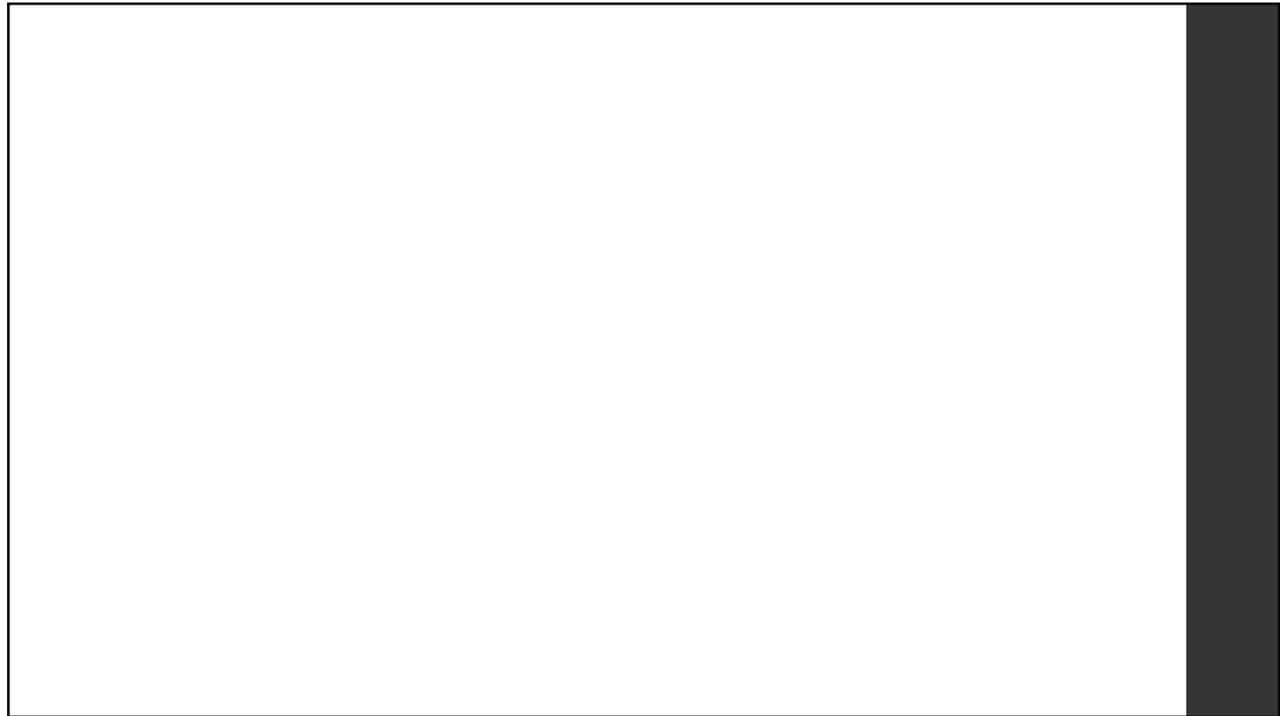
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Body Movement Terminology

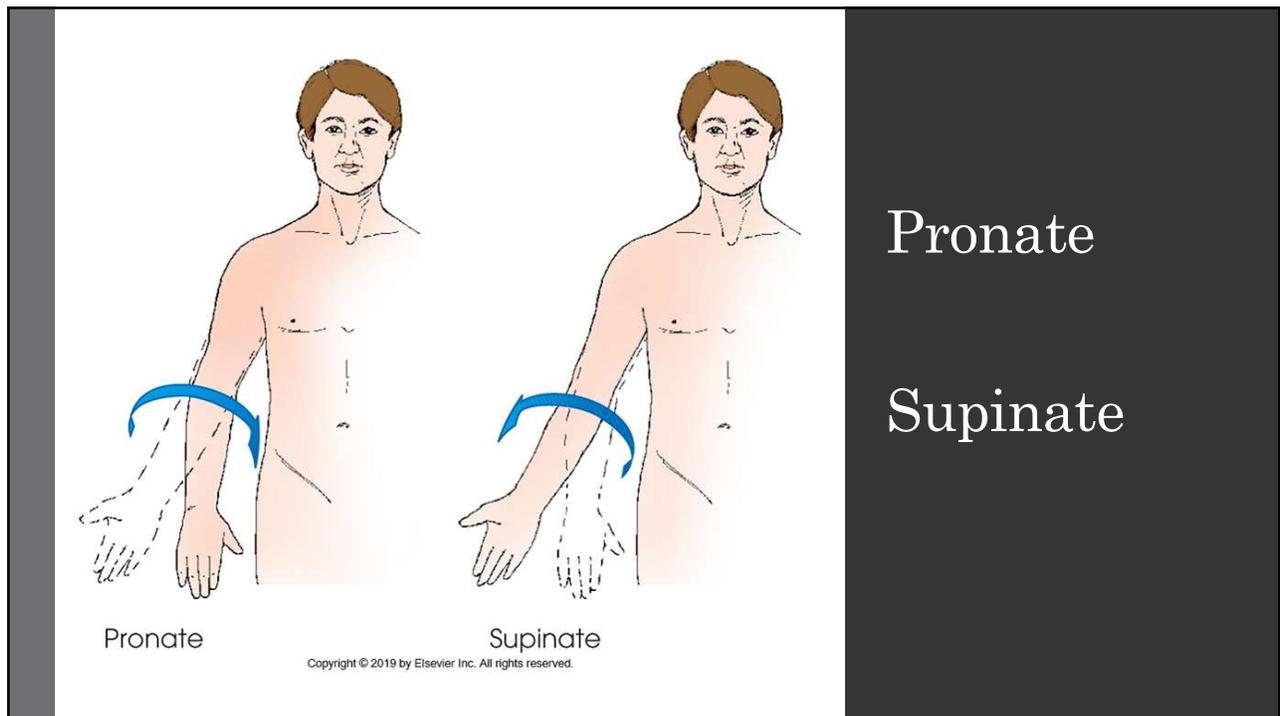
Movement related to limbs used often in positioning description and patient history.

- Supinate
- Pronate
- Abduction
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- Flexion
- External
- Internal

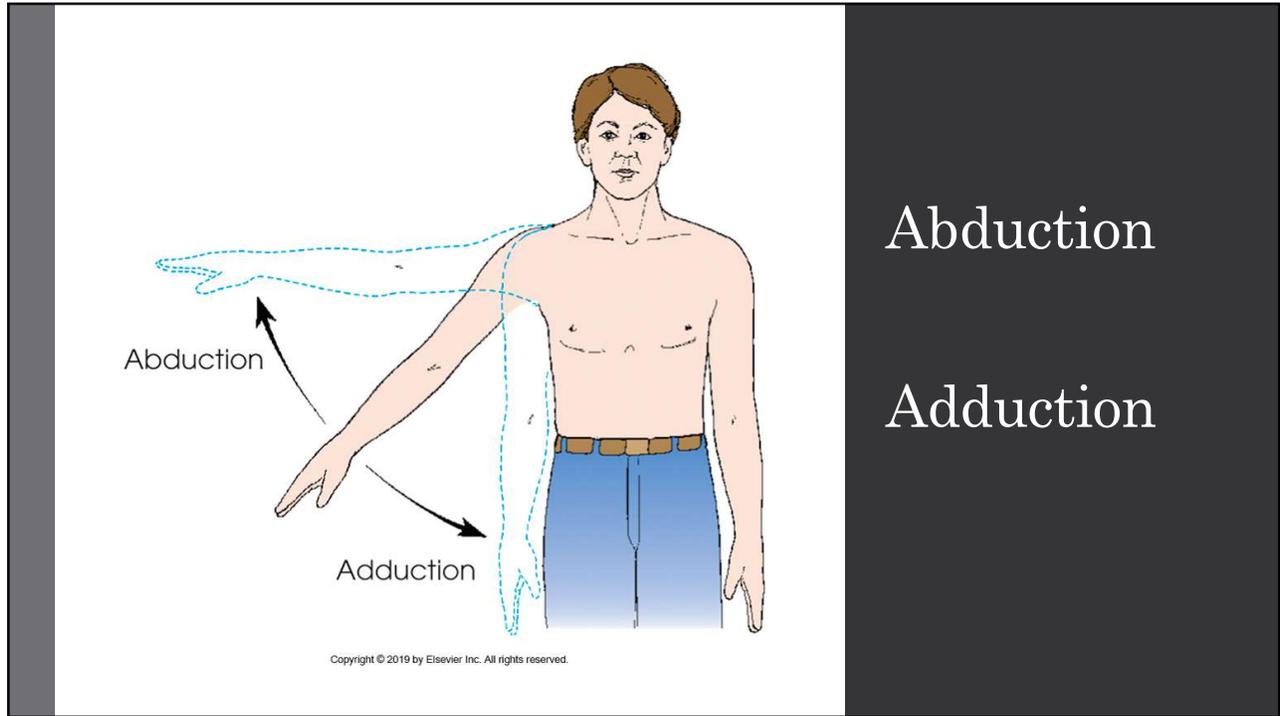
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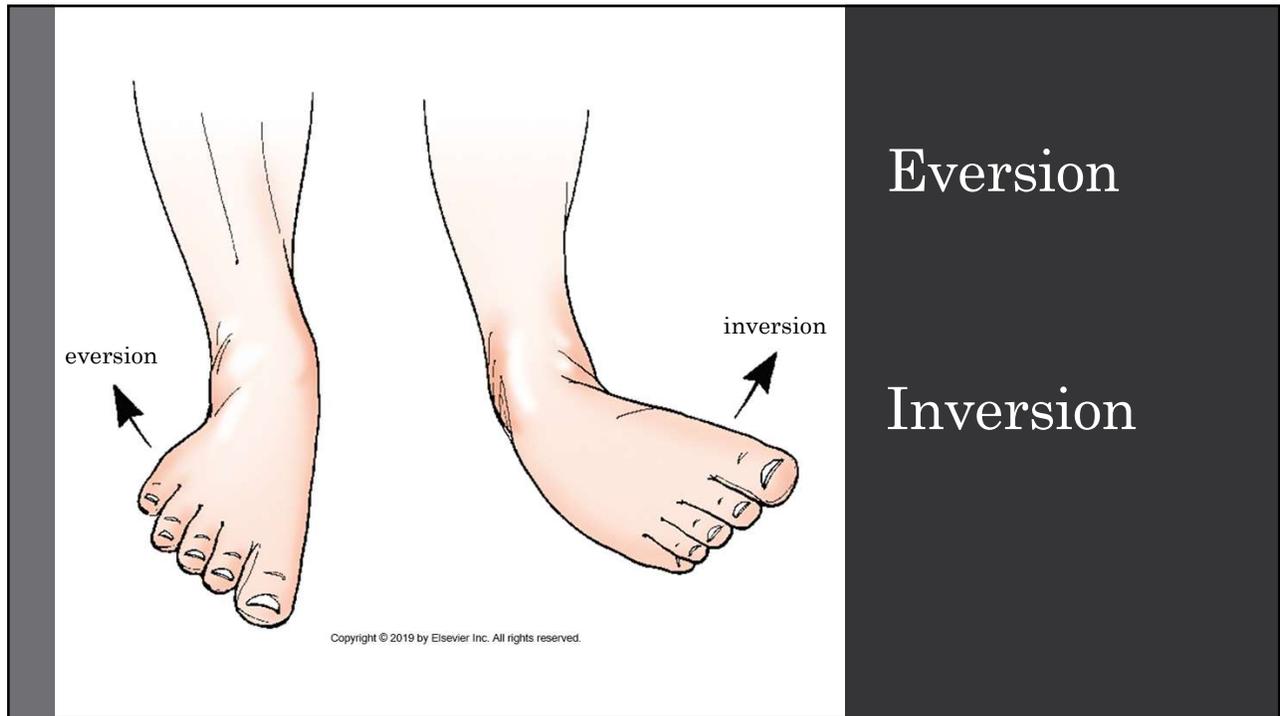
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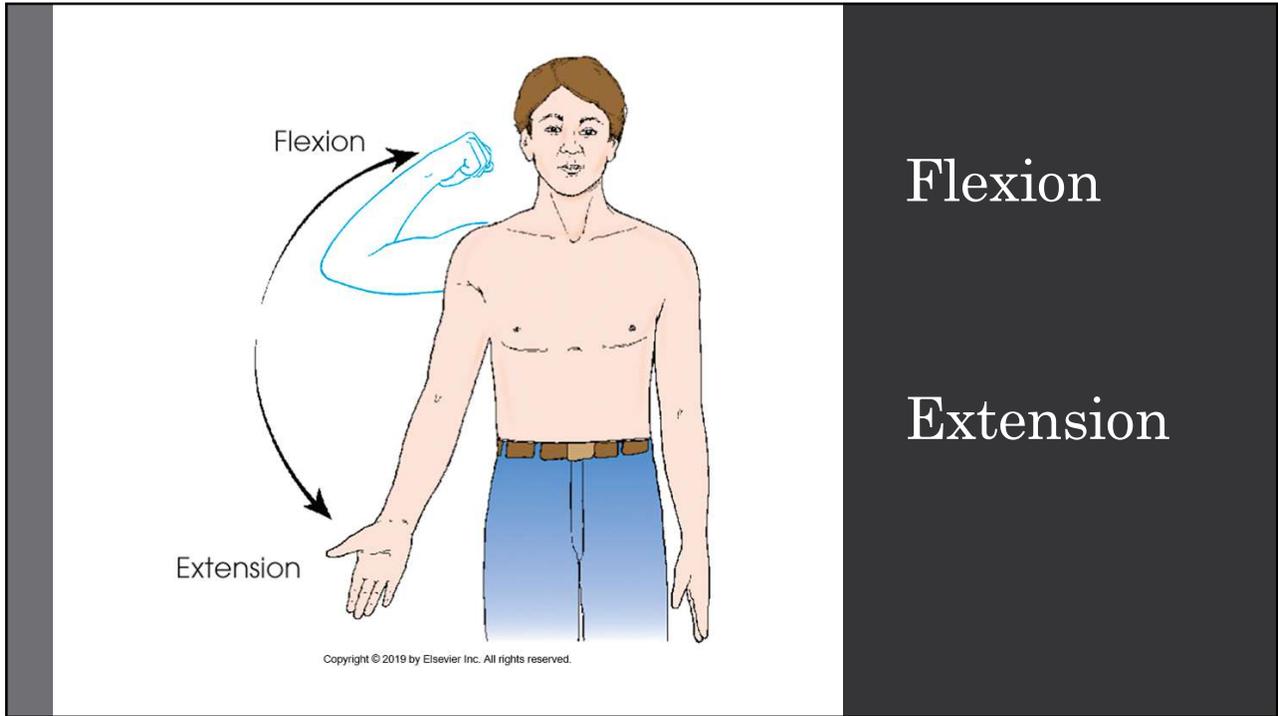
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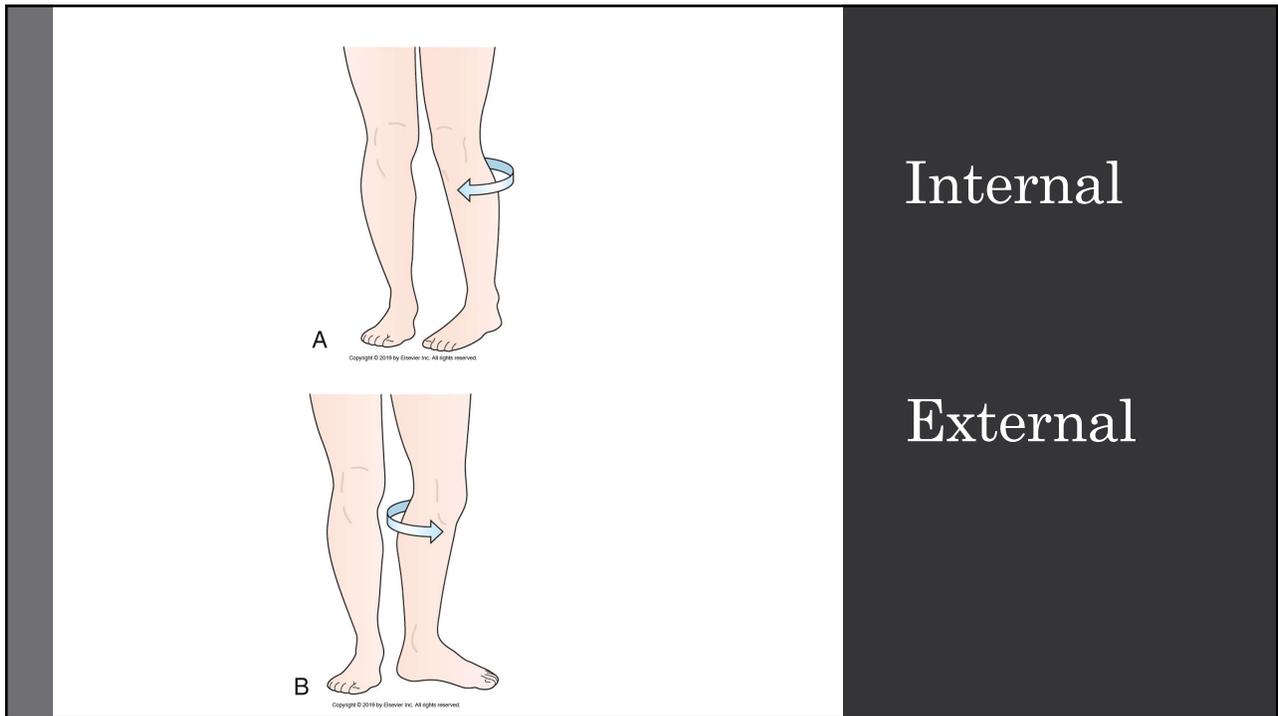
16



Flexion

Extension

17



Internal

External

18

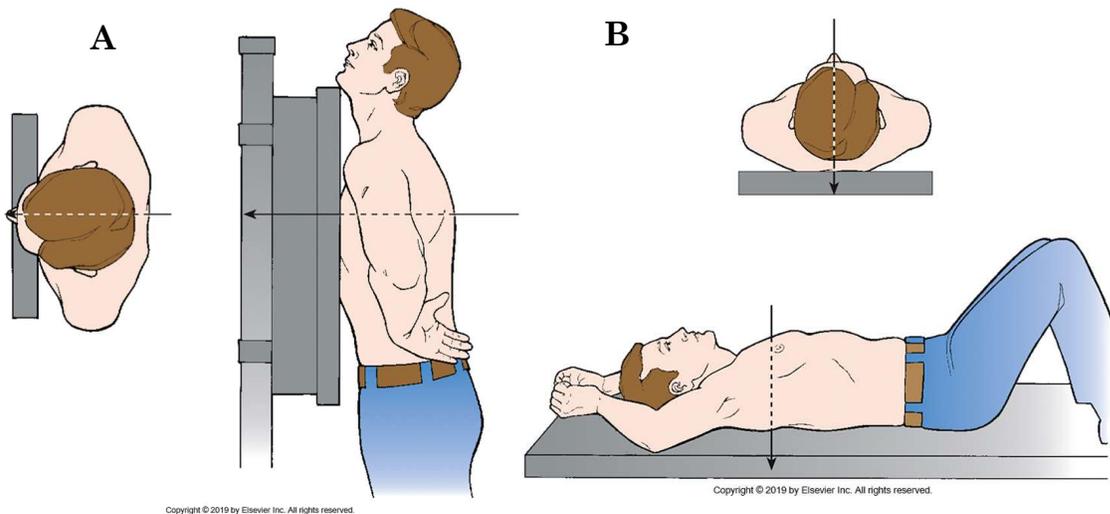
Projection

Described by the **path of the central ray** as it goes through the patient to the IR

- This is based on entrance and exit points in the body and the patient anatomic position
- Regardless of patient position (erect or recumbent)
 - Anteroposterior (AP)
 - Posteroanterior (PA)
 - Lateral Projection
 - Oblique Projection

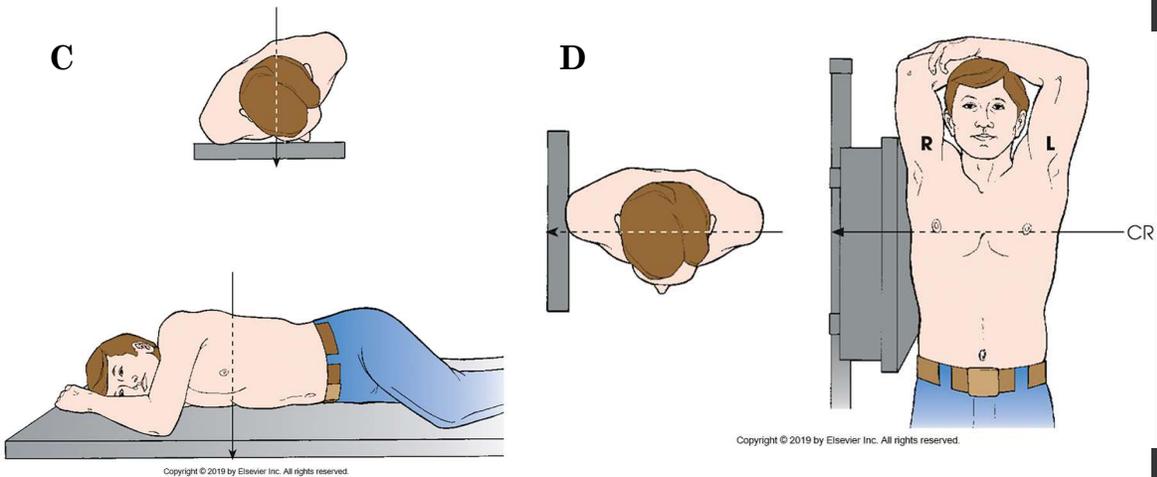
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Projection and Position



20

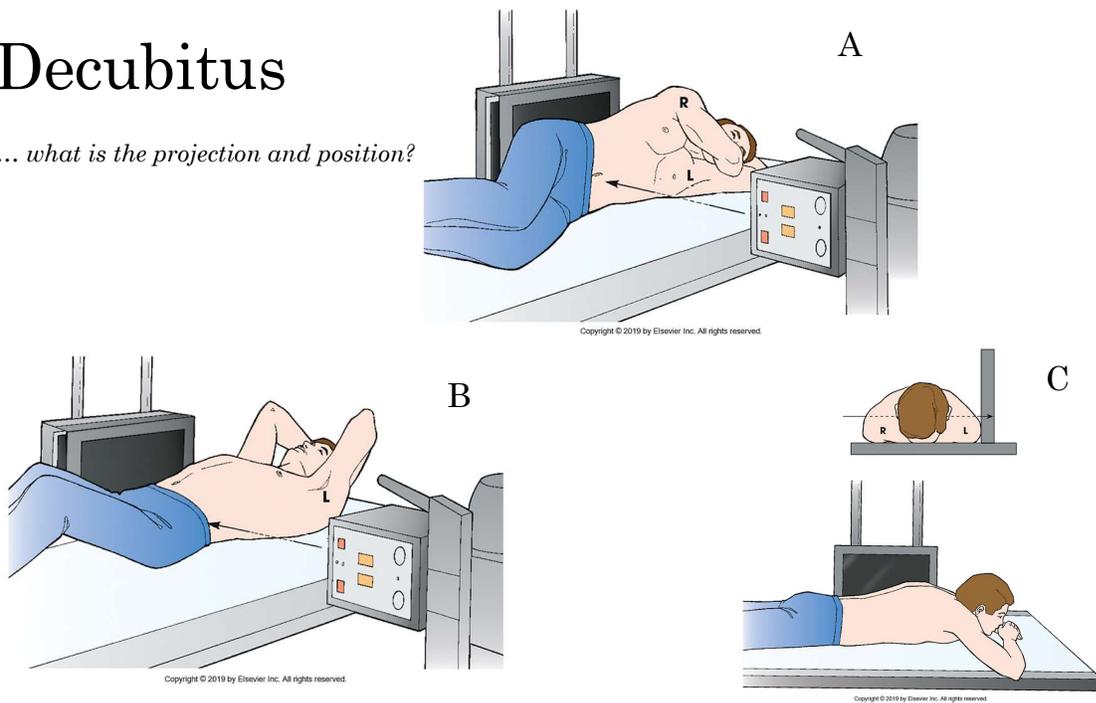
Projection and Position



21

Decubitus

... what is the projection and position?



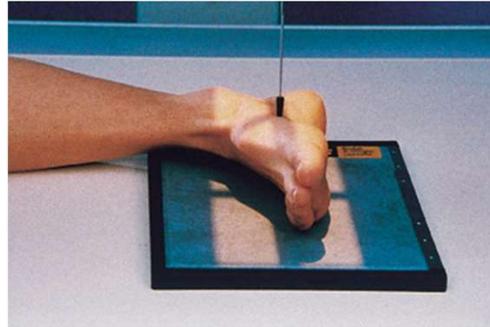
22

Extremities

A



B



23

MI 123: Clinical Seminar I

- ❖ **PROCEDURAL ROUTINE**
- ❖ **DOCUMENTATION/ORDERS**
- ❖ **HISTORY TAKING**
- ❖ **POLICIES:**
 - Patient Valuables
 - "Hand Off" Communication – Hall Pass
 - Imaging Pregnant Patients

24



Steps of a Procedural Routine

25

Types of patients

Private Out (OP) / Outpatient

- Can have a scheduled appointment or be a walk-in
 - Walk in - a patient that does not have an appointment
- Sent in from a physician's office with an order from a physician
- Could result in the need for a Verbal report / Image check

Inpatient

- Nursing Floors
- Intensive Care Units
 - SICU
 - MICU
 - NICU
 - PACU
- Pre-Admission Testing

Emergency Department



26

Procedural
Routine
Pre-
procedure

Review request/control sheet

- **Identify the radiographic procedure requested by the physician**
- **Review the order to evaluate for accuracy**

27



PHYSICIAN ORDER

- A physician orders a certain x-ray for a patient (left hand, right foot, lumbar spine, etc...)
- The physician will:
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 - The order may arrive with the patient (on an order slip/script), be faxed to the facility, or be electronic
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 - All Inpatients will have orders placed electronically in EPIC

28

Orders

- CPT Code- Current Procedural Terminology (AMA) CHEST PA & LATERAL [71020]
 - Codes that are assigned to every task and service that can be provided to a patient
 - Must be correct for insurance reimbursement/ payments
- ICD-10 Codes- International Statistical Classifications of Diseases
 - Alphanumeric assignments given to diagnosis and symptoms
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Table 1 – Comparisons of the Diagnosis Code Sets

ICD-9	ICD-10
3-5 characters in length	3-7 characters in length
Approximately 13,000 codes	Approximately 68,000 available codes
First digit may be alpha (E or V) or numeric; digits 2-5 are numeric	Digit 1 is alpha; digits 2 and 3 are numeric; digits 4-7 are alpha or numeric
Limited space for adding new codes	Flexible for adding new codes
Lacks detail	Very specific
Lacks laterality	Has laterality (i.e., codes identifying right vs. left)

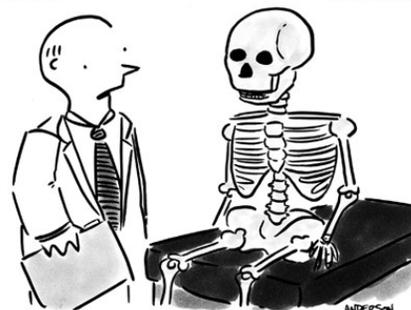
29

Requests

- A paper in which lists:
 - patient name, address, MRN, ordering doctor and phone number, study, codes for charging, numbers to track study in computer (accession number), list of most recent studies performed, etc...
 - Control sheet
 - Requisition
- Can be entered by clerical staff
 - Intake specialist
 - Unit clerks
- Always check the procedure on the request to the physician order to verify procedure
 - If there is a discrepancy, the physician's order is the correct of the two

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"Still, let's do an x-ray just to be sure."

30

Control Sheet vs Request

Reading Hospital
Department of Radiology Diagnostic Order Request

ACCESSION #: 12345678

MRN: 486223

Fox, Hannah

DOB: 8/2/1989, 31 year-old Female
ALLERGIES: Not on File
HEIGHT:
WEIGHT:
ROOM/REQ: O2:
METHOD OF TRANSPORT: ISOLATION:
ACCOUNT: 13000993032
CIN: 30002657465
Primary Insurance: IGA-INDEPENDENCE AETNA
Secondary Insurance:
THIS IS NOT YOUR IMAGING ORDER. YOU MUST VERIFY THE PROCEDURE ORDER IN THE ELECTRONIC MEDICAL RECORD.

PROCEDURE:
XR Nasal Bones Routine

PRIORITY: Routine
DIAGNOSIS: Nasal bone pain [882.2 (ICD-10-CM)]
REASON FOR EXAM: Injury
COMMENTS:
PREVIOUS EXAM: XR Foot
ORDERING MD: Jacob S Good
AUTHORIZING MD: Jacob S Good
PCP MD: Physician, No
Other Exams for Today:

RHSIS Medical Imaging Program
Skills Lab

Order Requisition

Name	MRN	DOB	Sex	Unit	Room/Bed	NAB
Boyer, Kyle	1234568	10/01/1977 (43)	F	EO	COS-005	1000002123457

XR Cervical Spine 1 View (Order #: 48276167)

Order Information

Order Date	Service	Start Date	Start Time	End Date
12/8/2020	Emergency Medicine	12/8/2020	0730	12/8/2020

Order Details

Frequency	Duration	Priority	Order Class
1 time imaging	1 occurrence	STAT	Ancillary Performed

Order Questions

Question	Answer	Comments
R/O	03 Fracture/subluxation	Keep pt supine until cleared

Sign Symptom: 03 Pain
Note: the selection of "Other requires further explanation in the Additional Comments section"

Order Provider Info

	Office Phone	Pager/beeper	Email
Ordering User: Frank B Moyes, DO	484-628-3637	--	--
Authorizing Provider: Frank B Moyes, DO	484-628-3637	--	--
Attending Provider: Frank B Moyes, DO	484-628-3637	--	--

RHSIS Medical Imaging Program
Skills Lab

31

Children's Clinic of Wyomissing
2240 Ridgewood Rd, Ste 100
Wyomissing, PA 19610-1286

Phone: 610-376-8691
Fax: 610-376-8745

Ordered By: Salvatore Anzalone, MD
Physician ID: NPID: 1871591180

Date: 02/15/2013
Patient Name: Sex: M
Birthdate: 12/03/1995 Patient ID: 123456
Address:
Home Tel: Day Tel:

Insurance: PA BLUE SHIELD Guarantor DOB:
Insured ID: OPB104378160001 Group #: 02536400
Guarantor: Rel to Guar: CHILD

Requisition: Outside Lab
Requisition ID:
Diagnostic Codes:
786.5 CHEST PAIN
CHEST PA & LATERAL [71020]

Salvatore Anzalone

STAT: Fasting: printed 02/15/2013 9:38:24 AM
Call Report: 610-376-8691

Example:
**Outpatient/Written
order= Transcribed**

32

CT Abd / Pelvis W Contrast (Order 88388120)

CT ABD / PELVIS W CONTRAST [88388120]

Electronically signed by: Finn Adamite, MD on 05/06/19 1156

Status: Active

This order may be acted on in another encounter.

Ordering user: Finn Adamite, MD 05/06/19 1156

Ordering provider: Finn Adamite, MD

Authorized by: Finn Adamite, MD

Ordering mode: Standard

Questionnaire

Question	Answer
Is a verbal report needed?	No

Order details

Screening Form

General Information

Patient Name: Kix, Jill	MRN: 3018053
Date of Birth: 9/4/1990	Home Phone: 111-111-1111
Legal Sex: Female	

Procedure	Ordering Provider	Authorizing Provider	Appointment Information
CT ABD / PELVIS W CONTRAST	Finn Adamite, MD	Finn Adamite, MD	5/6/2019 3:30 PM RAD CT A RH RAD CT

Screening Form Questions
No questions have been answered for this form.

*Example: EPIC
Inpatient Order*

Reason for Exam

Abd pain, appendicitis suspected

Priority: Routine

Diagnosis

Rheumatoid osteoperiostitis

Codes

ICD-10-CM: M86.9

ICD-9-CM: 730.20

Comments

33

Military Time

- Military time is based off a 24-hour clock
- Some healthcare facilities utilize military time in documentation



24-Hour Clock (Military Time) Conversion Chart

TIME	24-HOUR TIME	TIME	24-HOUR TIME
12:01 AM	0001	12:01 PM	1201
12:05 AM	0005	12:05 PM	1205
12:30 AM	0030	12:30 PM	1230
12:45 AM	0045	12:45 PM	1245
1:00 AM	0100	1:00 PM	1300
2:00 AM	0200	2:00 PM	1400
3:00 AM	0300	3:00 PM	1500
4:00 AM	0400	4:00 PM	1600
5:00 AM	0500	5:00 PM	1700
6:00 AM	0600	6:00 PM	1800
7:00 AM	0700	7:00 PM	1900
8:00 AM	0800	8:00 PM	2000
9:00 AM	0900	9:00 PM	2100
10:00 AM	1000	10:00 PM	2200
11:00 AM	1100	11:00 PM	2300
12:00 NOON	1200	12:00 MIDNIGHT	2400

34

Procedural Routine Pre-Procedure

Equipment preparation

- Radiographic room is prepared, with necessary supplies in place before the patient arrives in the room (Sheet is placed on the table, shield, sponges, etc.)
- X-Ray tube in position with applicable equipment readily available

Operating console preparation:

- Verify correct selection of patient name/MRN/accession #
- Enter HS# if applicable
- Select proper study/view within the operation console
- Select and verify appropriate kVp, mA and time/mAs, and ionization chambers (as necessary)

35

Procedural Routine Pre-Procedure

Retrieve patient from waiting area

- Introduce self
- Verify patient ID
- Address footwear and question pain meds/stability if applicable

The patient is properly gowned with all unnecessary/interfering clothing, jewelry, dentures, etc. removed

36

Procedural Routine Procedure

- **Escort the patient safely into the room** – Evaluation of medication/footwear, Patient Valuables (Review policy); Hand-Off Communication (Review policy)
- **Introduce yourself to the patient as a student as well as introduction of your technologist/Faculty**
 - Permission to participate in study
- **Re-confirm patient identification** – 2 patient identifiers



37

Procedural Routine Procedure

- **Obtain LMP/Pregnancy Status** – (Review policy)
 - Imaging Pregnant Patient Policy
 - Why? Importance?
 - 8-55 years of age
 - 2-part question
 - **First** day of last menstrual period/cycle?
 - Assess for chance of pregnancy – “Is there any chance of pregnancy?”



38

Obtain History

Sacred Seven

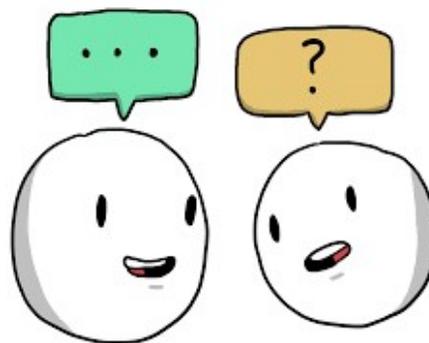


39

Effective Histories

- Open ended questions
- Probing question to focus on details
- Encourage elaboration
- Give the patient time to collect their thoughts
- Repetition or rewording
- Summarize to verify history

*Includes subjective (perceived) and objective (signs seen) data



40

Procedural Routine Procedure

- **Procedure explained to the patient**
- **Take precautionary measures to ensure patient safety** - application of brakes, footwear
- **Radiation protection practices applied** – appropriate gonadal shielding based on path of central ray
- **Assistance provided to patient during positioning**
- **Collimation appropriate for view**
- **Correctly manipulate equipment to obtain designated centering/projection**
- **Communicate breathing or movement instructions**



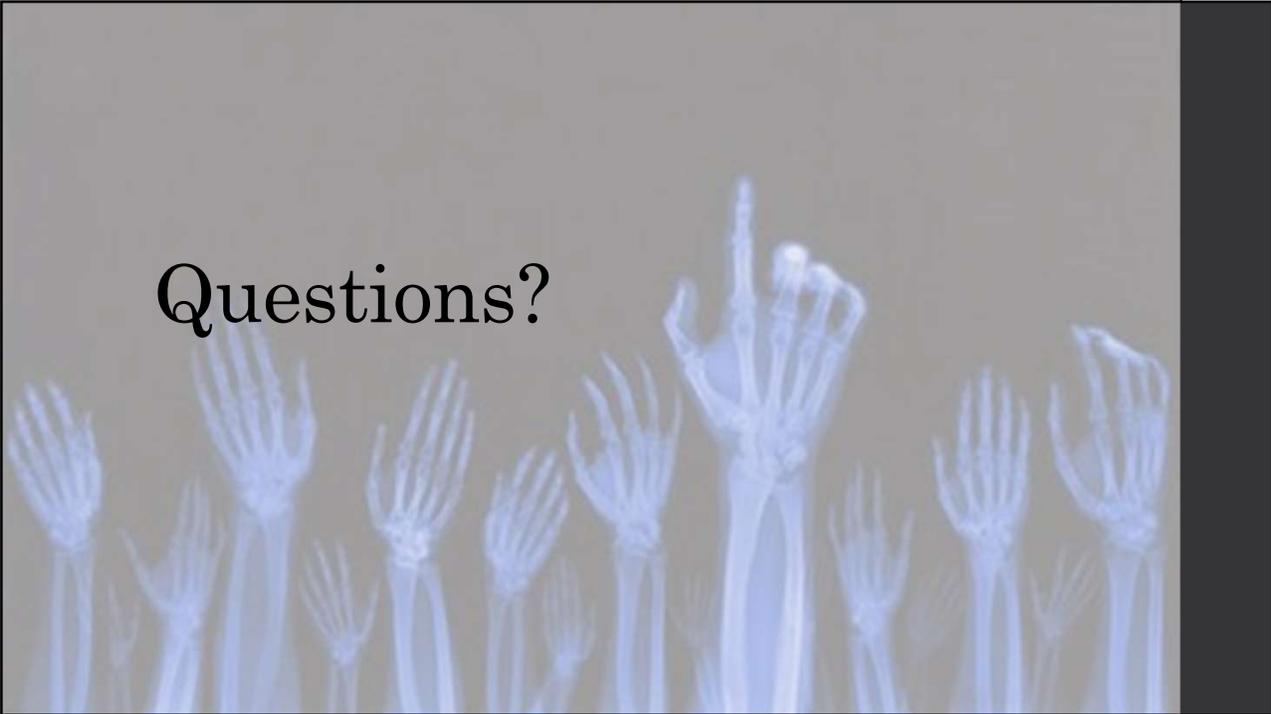
41

Procedural Routine Post-Procedure

- **Correctly dismiss patient from procedure**
 - Verbal Report/Image Check
- **Verify images sent to PACS with technologist approval**
- **Complete EPIC documentation**



42



43

MI 123: Clinical Seminar I Lecture #2

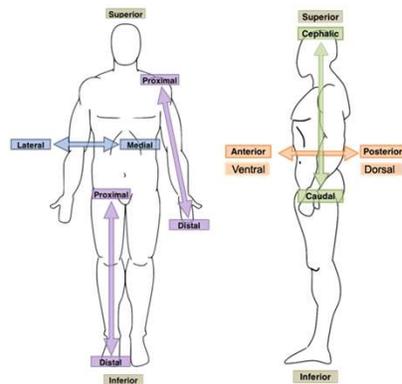
Mrs. Heather Herb

Standard Terms

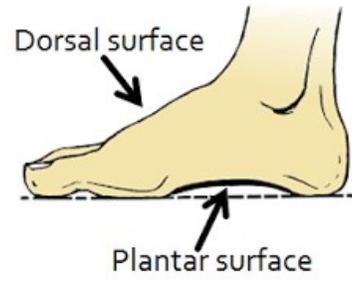
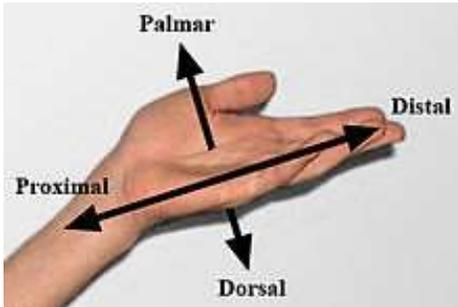
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Standard Terms

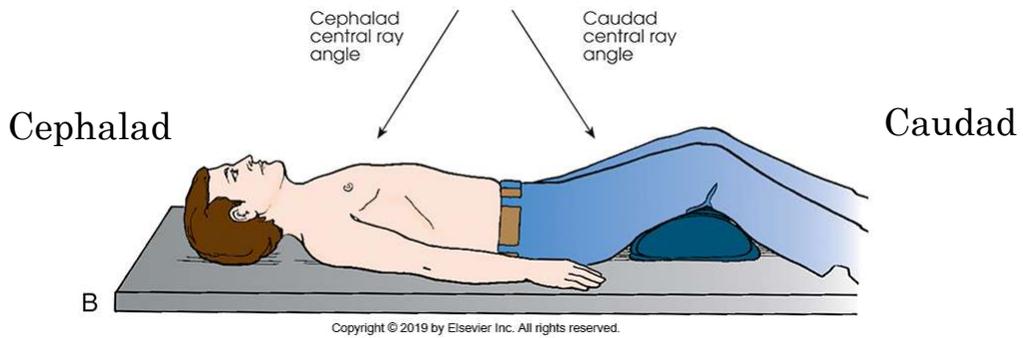
- Anterior (Ventral)
- Posterior (Dorsal)
- Lateral
- Medial
- Superior
- Inferior
- Proximal
- Distal
- Caudad
- Cephalad
- Palmar
- Plantar



2



3

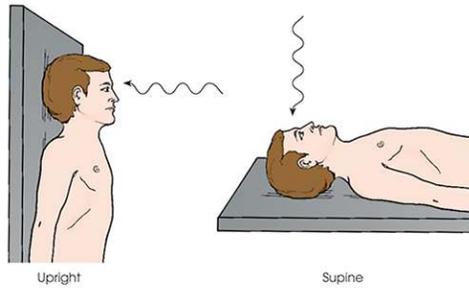


4

Positions

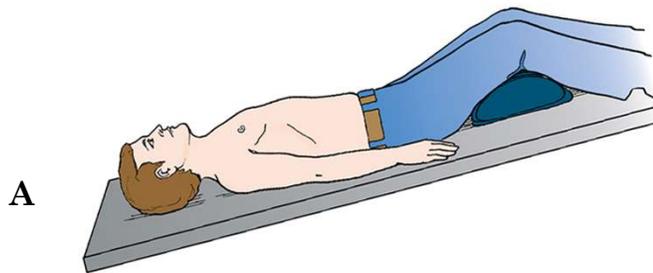
Identification of the overall posture of the patient or the general body position

- Recumbent
- Supine
- Prone
- Erect / Upright
- Trendelenburg

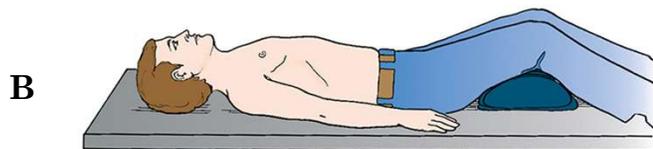


Supine
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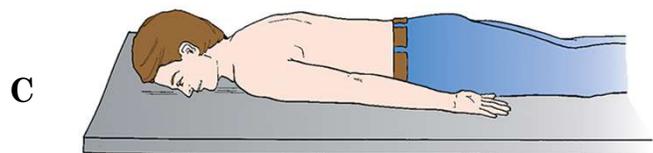
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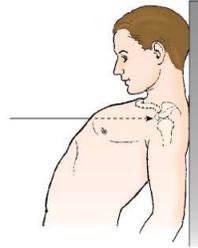
6

Radiographic Body Positions

Placement of the body part in relation to the radiographic table or IR during imaging

- Anterior
- Posterior
- Lordotic

- Lateral
- Decubitus
- Oblique



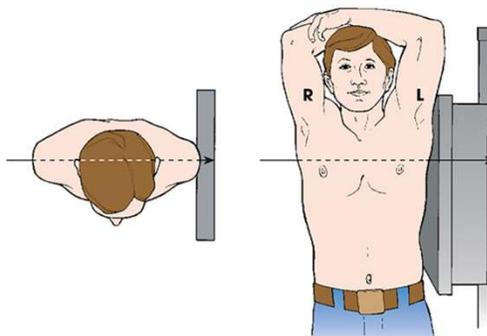
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7

Radiographic Body Positions

- Lateral
 - Further described as a right or left lateral depending on side against the image receptor

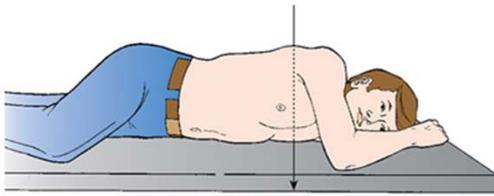
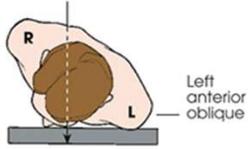
- Oblique
 - Further specified according to patient's relationship to the image receptor.
 - Right Posterior Oblique (RPO)
 - Left Posterior Oblique (LPO)
 - Right Anterior Oblique (RAO)
 - Left Anterior Oblique (LAO)



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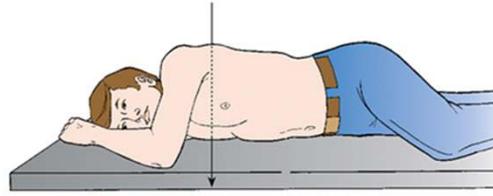
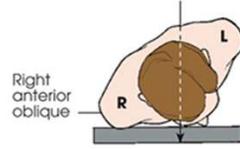
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LAO- left anterior oblique



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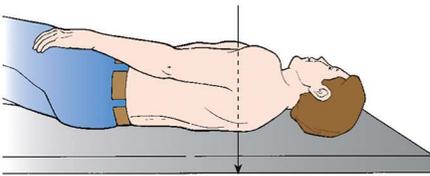
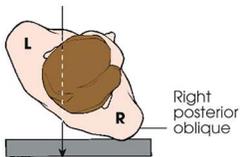
RAO- right anterior oblique



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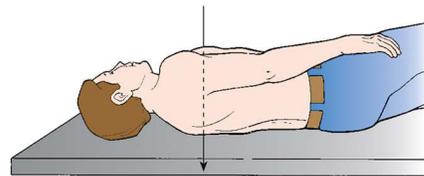
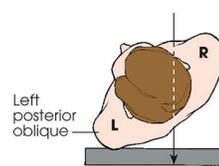
9

RPO- right posterior oblique



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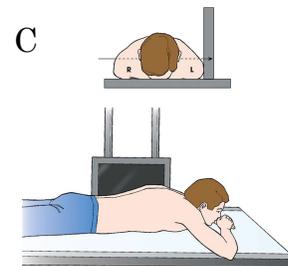
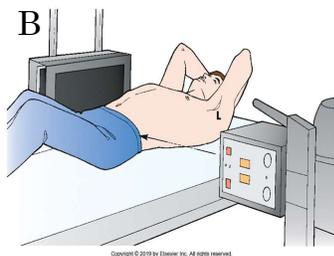
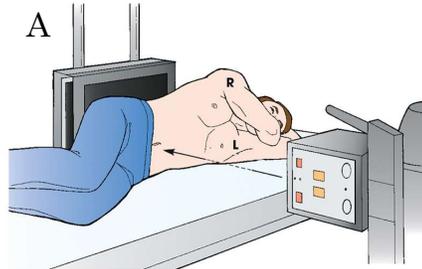
LPO- left posterior oblique



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10

Decubitus



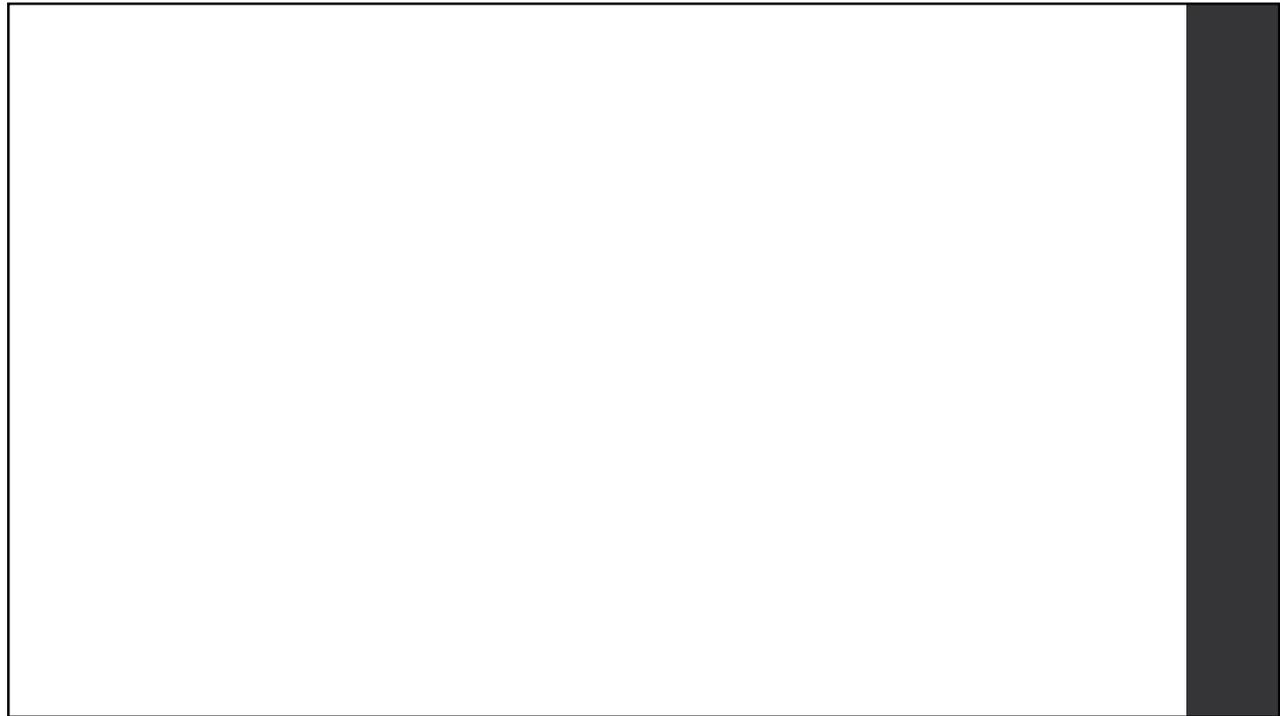
11

Body Movement Terminology

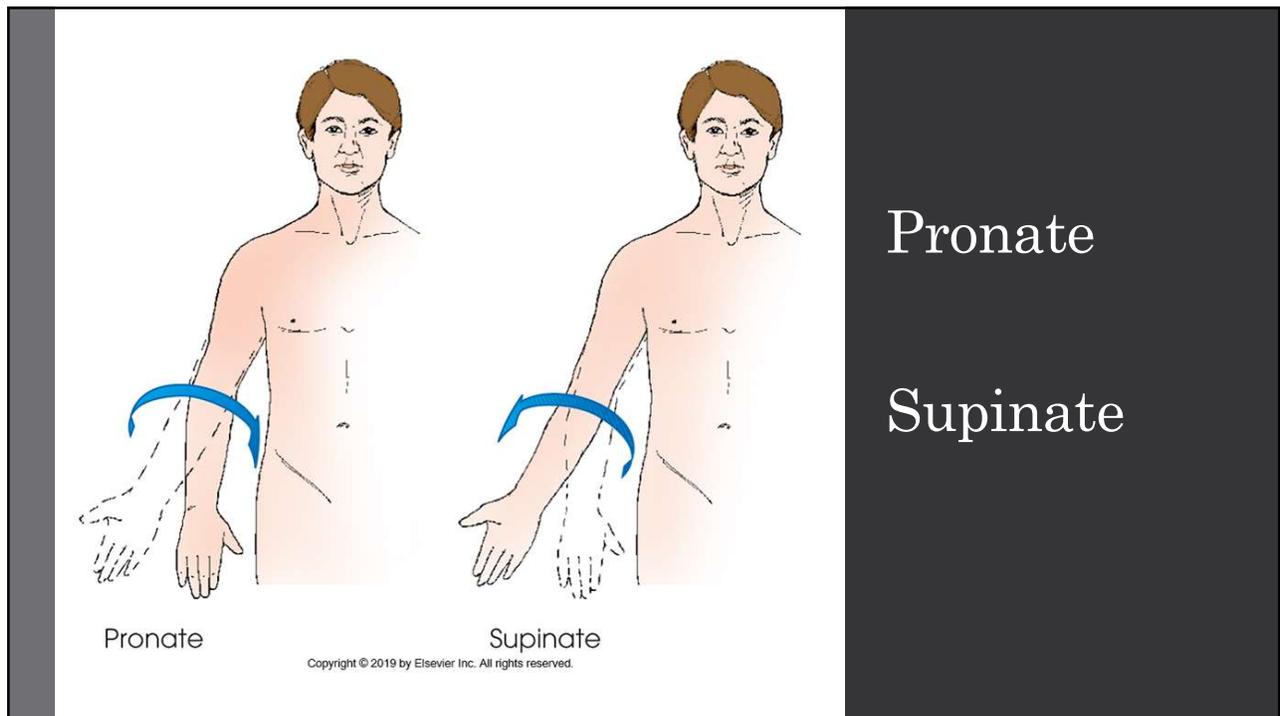
Movement related to limbs used often in positioning description and patient history.

- Supinate
- Pronate
- Abduction
- Adduction
- Eversion
- Inversion
- Extension
- Flexion
- External
- Internal

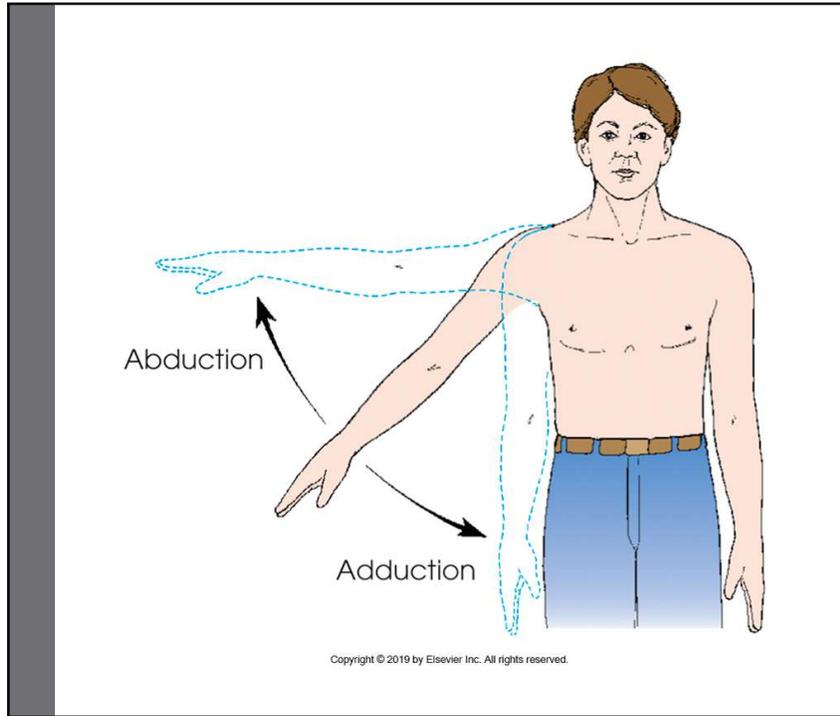
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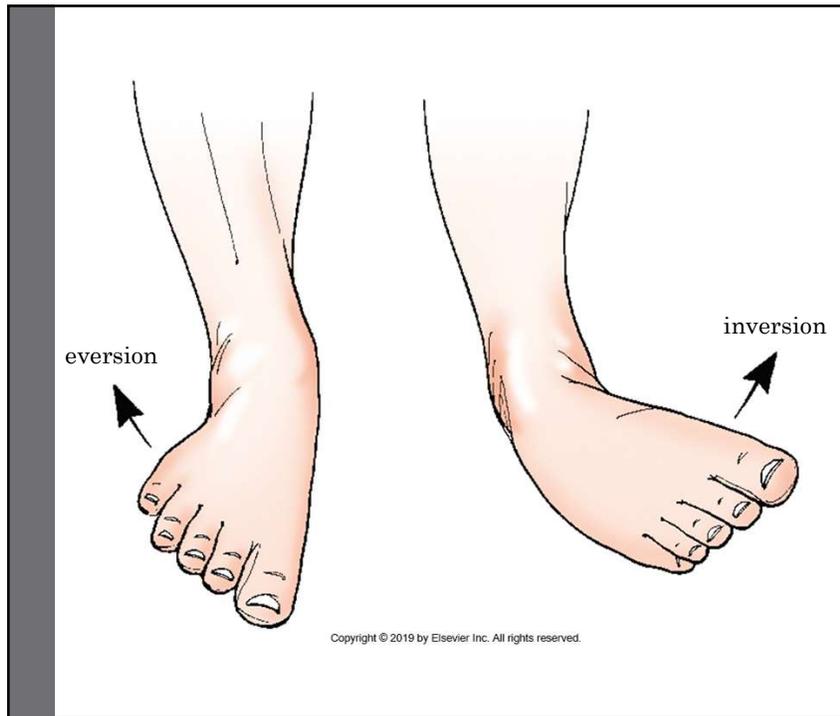
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Abduction

Adduction

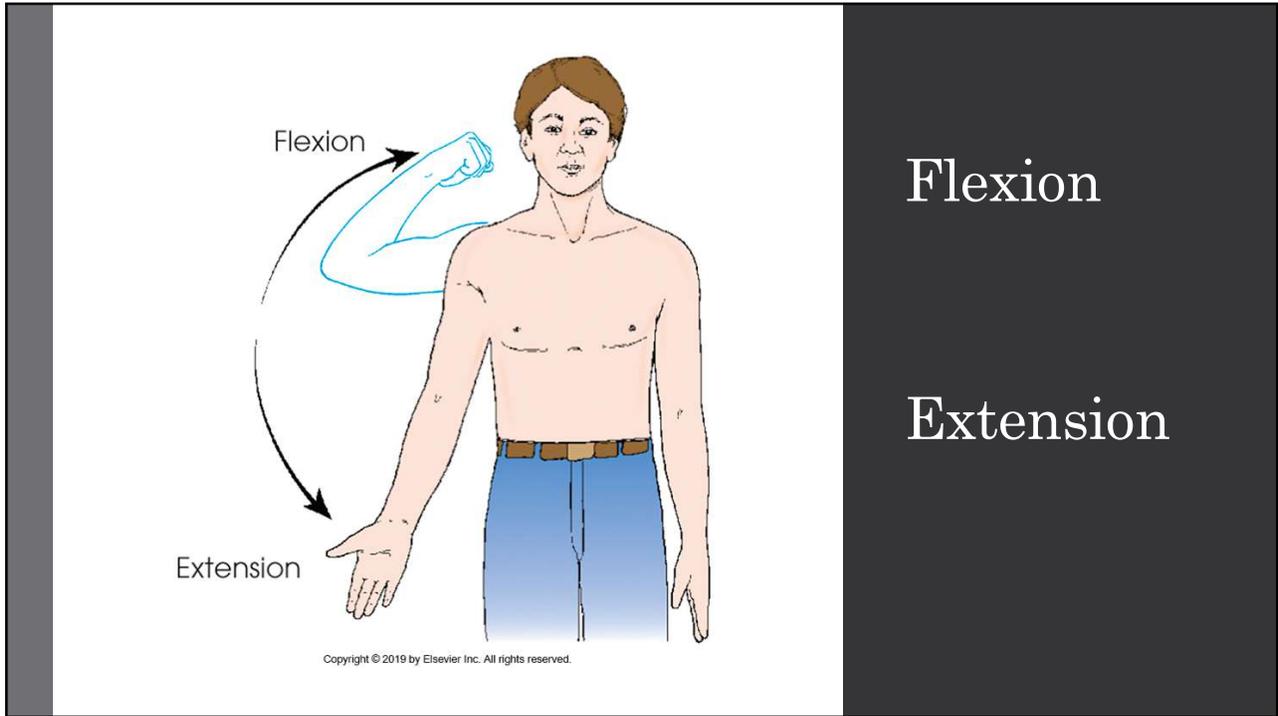
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Eversion

Inversion

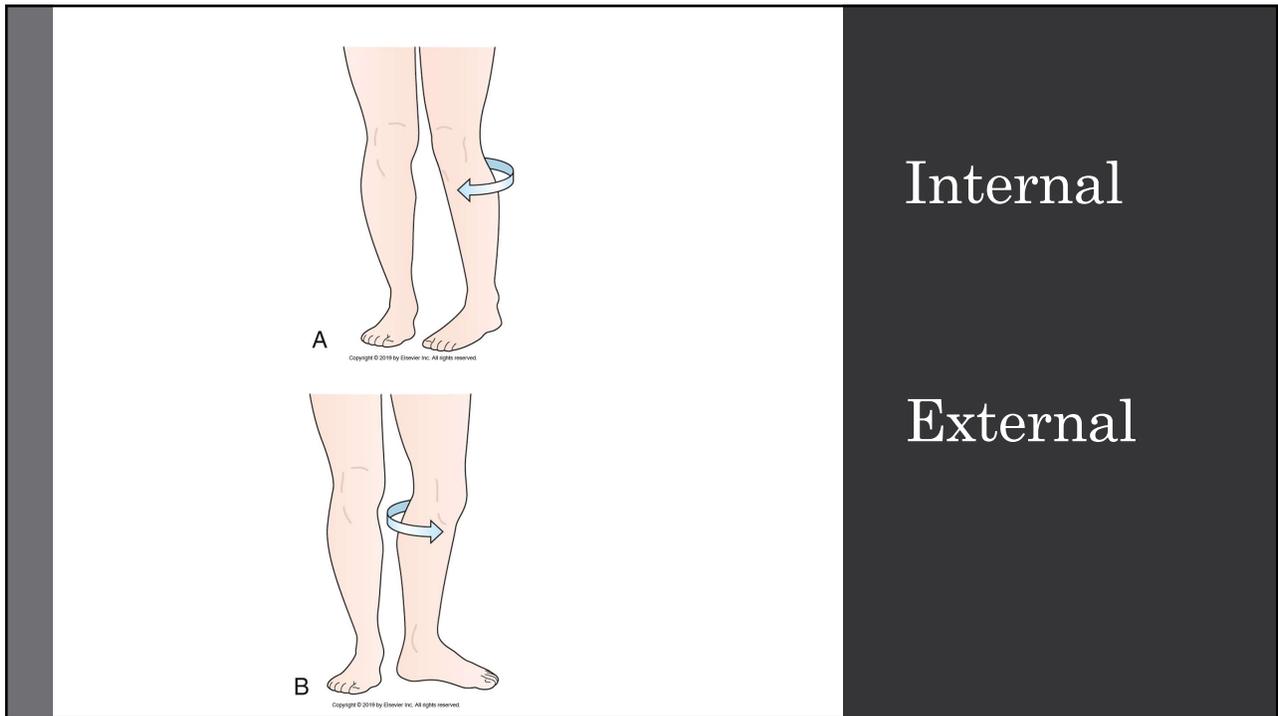
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Flexion

Extension

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Internal

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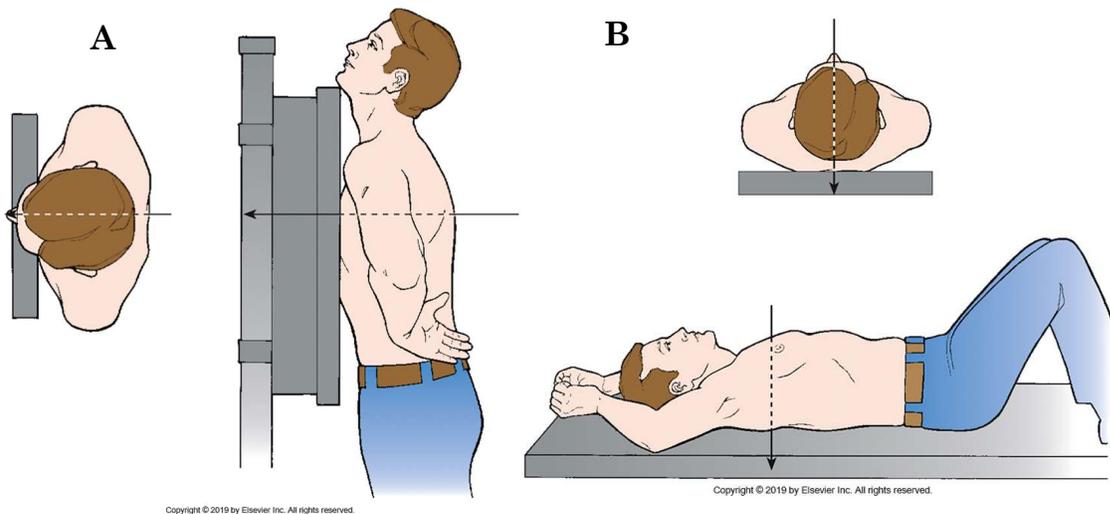
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 - Anteroposterior (AP)
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 - Oblique Projection

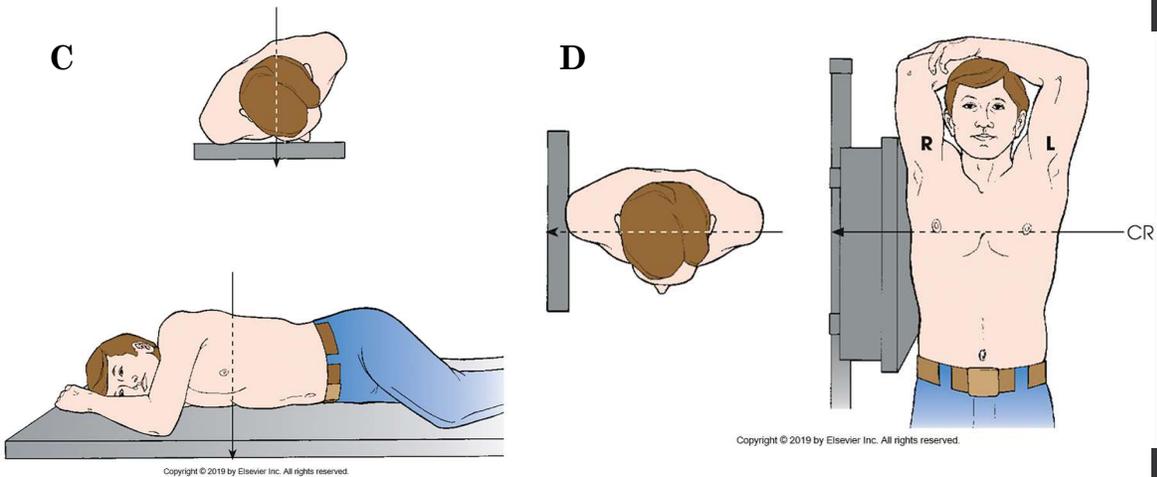
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Projection and Position



20

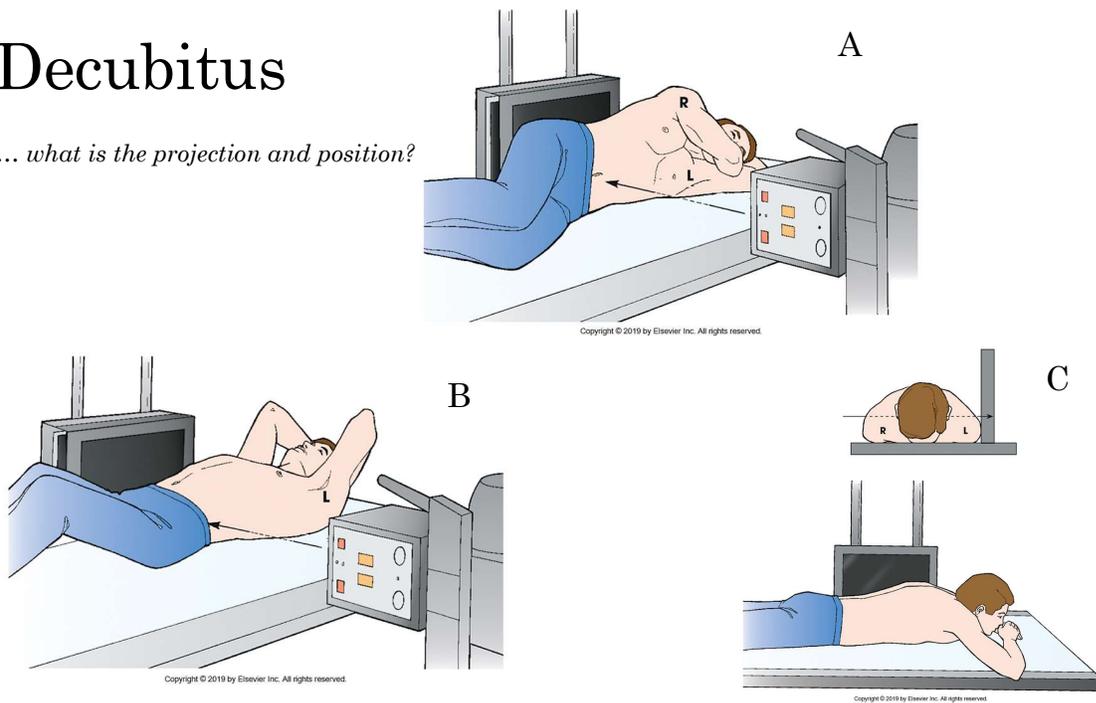
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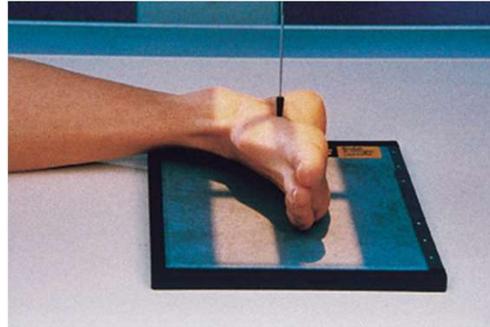
22

Extremities

A



B



23

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- ❖ **DOCUMENTATION/ORDERS**
- ❖ **HISTORY TAKING**
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Steps of a Procedural Routine

25

Types of patients

Private Out (OP) / Outpatient

- Can have a scheduled appointment or be a walk-in
 - Walk in - a patient that does not have an appointment
- Sent in from a physician's office with an order from a physician
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Inpatient

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- Intensive Care Units
 - SICU
 - MICU
 - NICU
 - PACU
- Pre-Admission Testing

Emergency Department



26

Procedural
Routine
Pre-
procedure

**Review request/control
sheet**

- **Identify the radiographic procedure requested by the physician**
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Limited space for adding new codes	Flexible for adding new codes
Lacks detail	Very specific
Lacks laterality	Has laterality (i.e., codes identifying right vs. left)

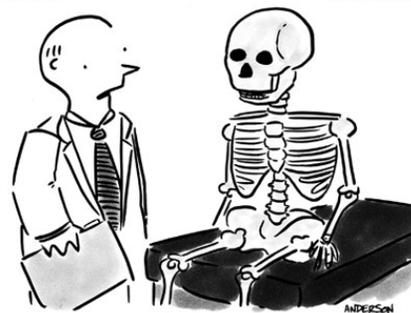
29

Requests

- A paper in which lists:
 - patient name, address, MRN, ordering doctor and phone number, study, codes for charging, numbers to track study in computer (accession number), list of most recent studies performed, etc...
 - Control sheet
 - Requisition
- Can be entered by clerical staff
 - Intake specialist
 - Unit clerks
- Always check the procedure on the request to the physician order to verify procedure
 - If there is a discrepancy, the physician's order is the correct of the two

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"Still, let's do an x-ray just to be sure."

30

Control Sheet vs Request

Reading Hospital
Department of Radiology Diagnostic Order Request

ACCESSION #: 12345678

MRN: 486223

Fox, Hannah

DOB: 8/2/1989, 31 year-old Female
ALLERGIES: Not on File
HEIGHT:
WEIGHT:
ROOM/REQ: O2:
METHOD OF TRANSPORT: ISOLATION:
ACCOUNT: 13000993032
CIN: 30002657465
Primary Insurance: IGA-INDEPENDENCE AETNA
Secondary Insurance:
THIS IS NOT YOUR IMAGING ORDER. YOU MUST VERIFY THE PROCEDURE ORDER IN THE ELECTRONIC MEDICAL RECORD.

PROCEDURE:
XR Nasal Bones Routine

PRIORITY: Routine
DIAGNOSIS: Nasal bone pain [882.2 (ICD-10-CM)]
REASON FOR EXAM: Injury
COMMENTS:
PREVIOUS EXAM: XR Foot
ORDERING MD: Jacob S Good
AUTHORIZING MD: Jacob S Good
PCP MD: Physician, No
Other Exams for Today:

RHSIS Medical Imaging Program
Skills Lab

Order Requisition

Name	MRN	DOB	Sex	Unit	Room/Bed	NAB
Boyer, Kyle	1234568	10/01/1977 (43)	F	EO	COS-005	1000002123457

XR Cervical Spine 1 View (Order #: 48276167)

Order Information

Order Date	Service	Start Date	Start Time	End Date
12/8/2020	Emergency Medicine	12/8/2020	0730	12/8/2020

Order Details

Frequency	Duration	Priority	Order Class
1 time imaging	1 occurrence	STAT	Ancillary Performed

Order Questions

Question	Answer	Comments
R/O	03 Fracture/subluxation	Keep pt supine until cleared

Sign Symptom: 03 Pain
Note: the selection of "Other requires further explanation in the Additional Comments section"

Order Provider Info

	Office Phone	Pager/Beeper	Email
Ordering User: Frank B Moyes, DO	484-628-3637	--	--
Authorizing Provider: Frank B Moyes, DO	484-628-3637	--	--
Attending Provider: Frank B Moyes, DO	484-628-3637	--	--

RHSIS Medical Imaging Program
Skills Lab

31

Children's Clinic of Wyomissing
2240 Ridgewood Rd, Ste 100
Wyomissing, PA 19610-1286

Phone: 610-376-8691
Fax: 610-376-8745

Ordered By: Salvatore Anzalone, MD
Physician ID: NPID: 1871591180

Date: 02/15/2013
Patient Name: Sex: M
Birthdate: 12/03/1995 Patient ID: 123456
Address: Day Tel:
Home Tel:

Insurance: PA BLUE SHIELD Guarantor DOB:
Insured ID: OPB104378160001 Group #: 02536400
Guarantor: Rel to Guar: CHILD

Requisition: Outside Lab
Requisition ID:
Diagnostic Codes:
786.5 CHEST PAIN
CHEST PA & LATERAL [71020]

Salvatore Anzalone

STAT: Fasting: printed 02/15/2013 9:38:24 AM
Call Report: 610-376-8691

Example:
**Outpatient/Written
order= Transcribed**

32

CT Abd / Pelvis W Contrast (Order 88388120)

CT ABD / PELVIS W CONTRAST [88388120]

Electronically signed by: Finn Adamite, MD on 05/06/19 1156

Status: Active

This order may be acted on in another encounter.

Ordering user: Finn Adamite, MD 05/06/19 1156

Ordering provider: Finn Adamite, MD

Authorized by: Finn Adamite, MD

Ordering mode: Standard

Questionnaire

Question	Answer
Is a verbal report needed?	No

Order details

Screening Form

General Information

Patient Name: Kix, Jill	MRN: 3018053
Date of Birth: 9/4/1990	Home Phone: 111-111-1111
Legal Sex: Female	

Procedure	Ordering Provider	Authorizing Provider	Appointment Information
CT ABD / PELVIS W CONTRAST	Finn Adamite, MD	Finn Adamite, MD	5/6/2019 3:30 PM RAD CT A RH RAD CT

Screening Form Questions

No questions have been answered for this form.

*Example: EPIC
Inpatient Order*

Reason for Exam

Abd pain, appendicitis suspected

Priority: Routine

Diagnosis

Rheumatoid osteoperiostitis

Codes

ICD-10-CM: M86.9

ICD-9-CM: 730.20

Comments

33

Military Time

- Military time is based off a 24-hour clock
- Some healthcare facilities utilize military time in documentation



24-Hour Clock (Military Time) Conversion Chart

TIME	24-HOUR TIME	TIME	24-HOUR TIME
12:01 AM	0001	12:01 PM	1201
12:05 AM	0005	12:05 PM	1205
12:30 AM	0030	12:30 PM	1230
12:45 AM	0045	12:45 PM	1245
1:00 AM	0100	1:00 PM	1300
2:00 AM	0200	2:00 PM	1400
3:00 AM	0300	3:00 PM	1500
4:00 AM	0400	4:00 PM	1600
5:00 AM	0500	5:00 PM	1700
6:00 AM	0600	6:00 PM	1800
7:00 AM	0700	7:00 PM	1900
8:00 AM	0800	8:00 PM	2000
9:00 AM	0900	9:00 PM	2100
10:00 AM	1000	10:00 PM	2200
11:00 AM	1100	11:00 PM	2300
12:00 NOON	1200	12:00 MIDNIGHT	2400

34

Procedural Routine Pre-Procedure

Equipment preparation

- Radiographic room is prepared, with necessary supplies in place before the patient arrives in the room (Sheet is placed on the table, shield, sponges, etc.)
- X-Ray tube in position with applicable equipment readily available

Operating console preparation:

- Verify correct selection of patient name/MRN/accession #
- Enter HS# if applicable
- Select proper study/view within the operation console
- Select and verify appropriate kVp, mA and time/mAs, and ionization chambers (as necessary)

35

Procedural Routine Pre-Procedure

Retrieve patient from waiting area

- Introduce self
- Verify patient ID
- Address footwear and question pain meds/stability if applicable

The patient is properly gowned with all unnecessary/interfering clothing, jewelry, dentures, etc. removed

36

Procedural Routine Procedure

- **Escort the patient safely into the room** – Evaluation of medication/footwear, Patient Valuables (Review policy); Hand-Off Communication (Review policy)
- **Introduce yourself to the patient as a student as well as introduction of your technologist/Faculty**
 - Permission to participate in study
- **Re-confirm patient identification** – 2 patient identifiers



37

Procedural Routine Procedure

- **Obtain LMP/Pregnancy Status** – (Review policy)
 - Imaging Pregnant Patient Policy
 - Why? Importance?
 - 8-55 years of age
 - 2-part question
 - **First** day of last menstrual period/cycle?
 - Assess for chance of pregnancy – “Is there any chance of pregnancy?”



38

Obtain History

Sacred Seven

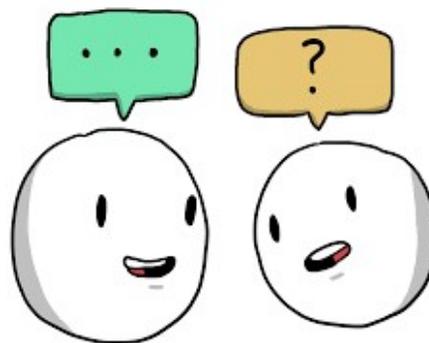


39

Effective Histories

- Open ended questions
- Probing question to focus on details
- Encourage elaboration
- Give the patient time to collect their thoughts
- Repetition or rewording
- Summarize to verify history

*Includes subjective (perceived) and objective (signs seen) data



40

Procedural Routine Procedure

- **Procedure explained to the patient**
- **Take precautionary measures to ensure patient safety** - application of brakes, footwear
- **Radiation protection practices applied** – appropriate gonadal shielding based on path of central ray
- **Assistance provided to patient during positioning**
- **Collimation appropriate for view**
- **Correctly manipulate equipment to obtain designated centering/projection**
- **Communicate breathing or movement instructions**



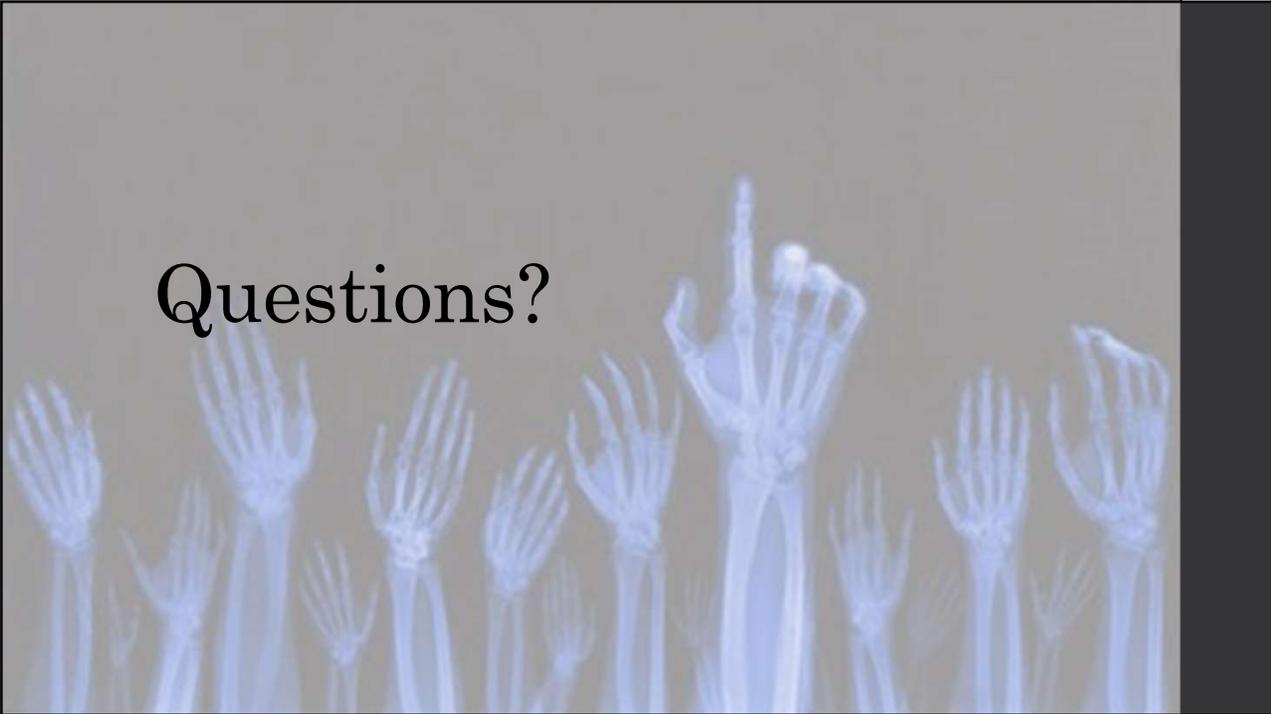
41

Procedural Routine Post-Procedure

- **Correctly dismiss patient from procedure**
 - Verbal Report/Image Check
- **Verify images sent to PACS with technologist approval**
- **Complete EPIC documentation**



42



43

MI 123: Clinical Seminar I Lecture #2

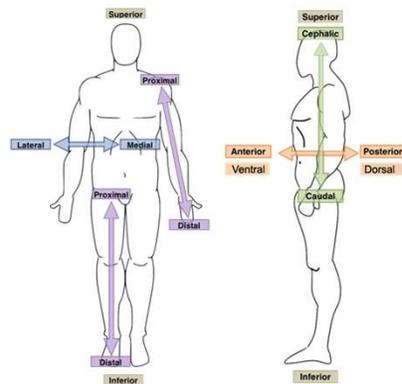
Mrs. Heather Herb

Standard Terms

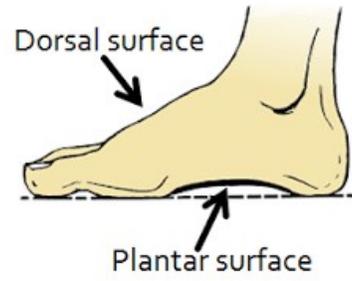
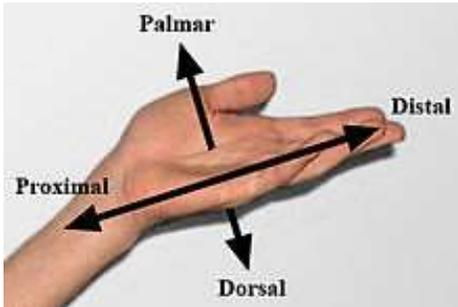
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Standard Terms

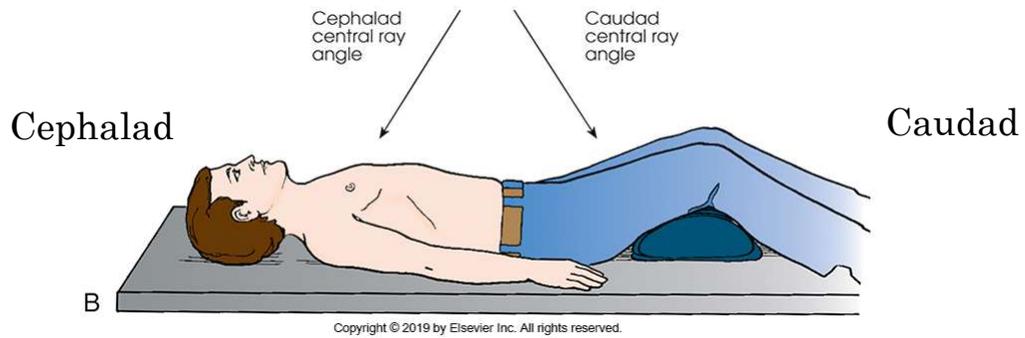
- Anterior (Ventral)
- Posterior (Dorsal)
- Lateral
- Medial
- Superior
- Inferior
- Proximal
- Distal
- Caudad
- Cephalad
- Palmar
- Plantar



2



3

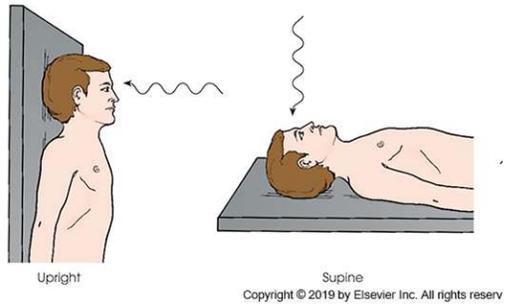


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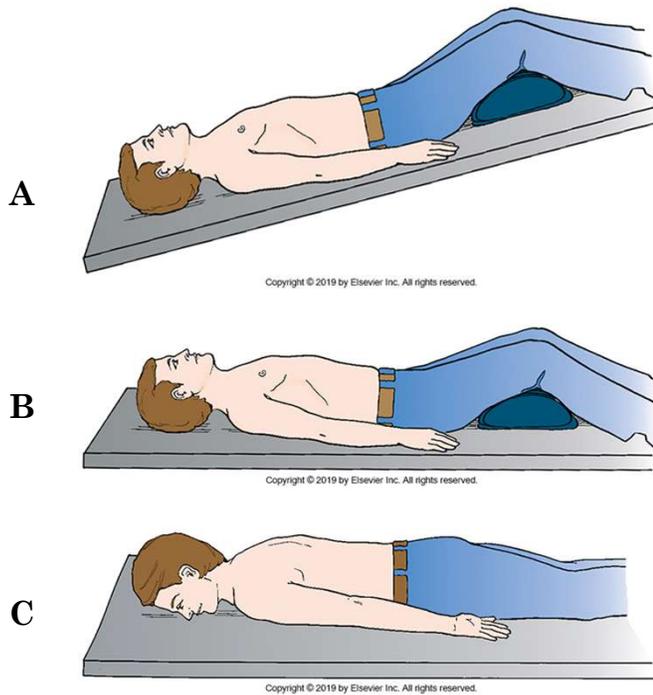
Positions

Identification of the overall posture of the patient or the general body position

- Recumbent
- Supine
- Prone
- Erect / Upright
- Trendelenburg



5



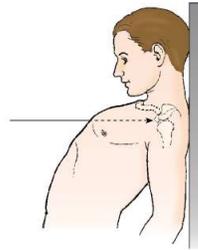
6

Radiographic Body Positions

Placement of the body part in relation to the radiographic table or IR during imaging

- Anterior
- Posterior
- Lordotic

- Lateral
- Decubitus
- Oblique



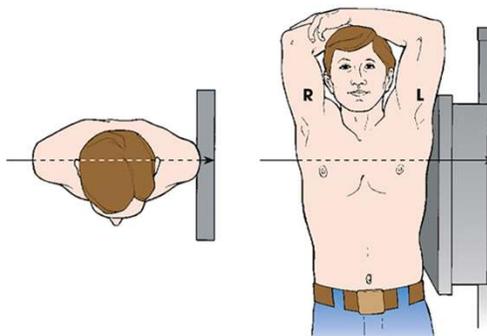
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7

Radiographic Body Positions

- Lateral
 - Further described as a right or left lateral depending on side against the image receptor

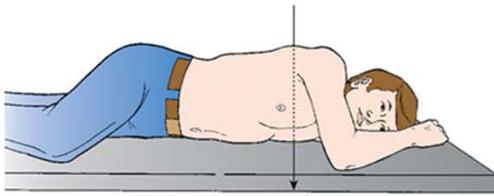
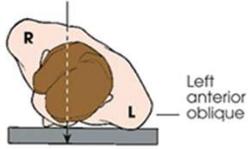
- Oblique
 - Further specified according to patient's relationship to the image receptor.
 - Right Posterior Oblique (RPO)
 - Left Posterior Oblique (LPO)
 - Right Anterior Oblique (RAO)
 - Left Anterior Oblique (LAO)



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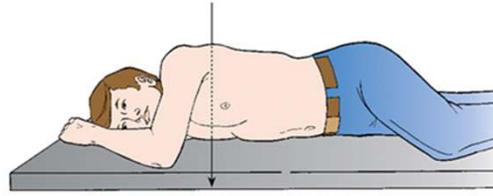
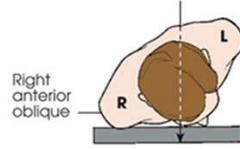
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LAO- left anterior oblique



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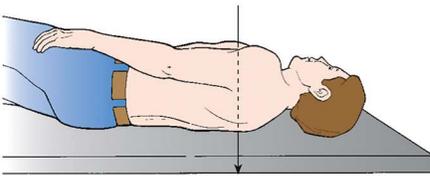
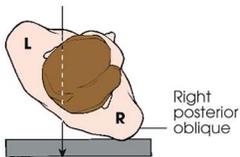
RAO- right anterior oblique



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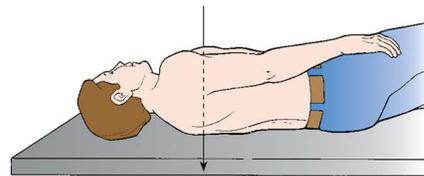
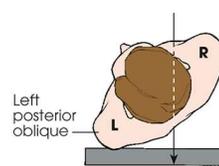
9

RPO- right posterior oblique



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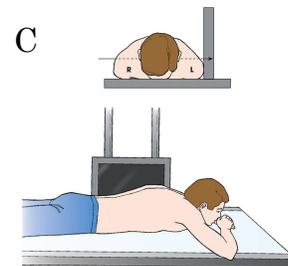
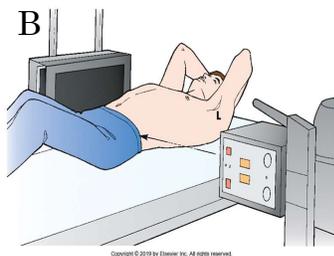
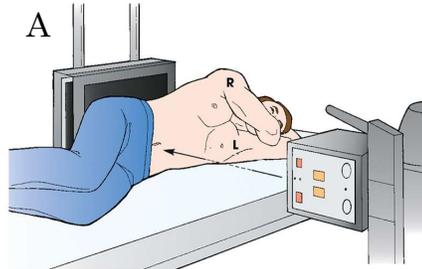
LPO- left posterior oblique



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10

Decubitus



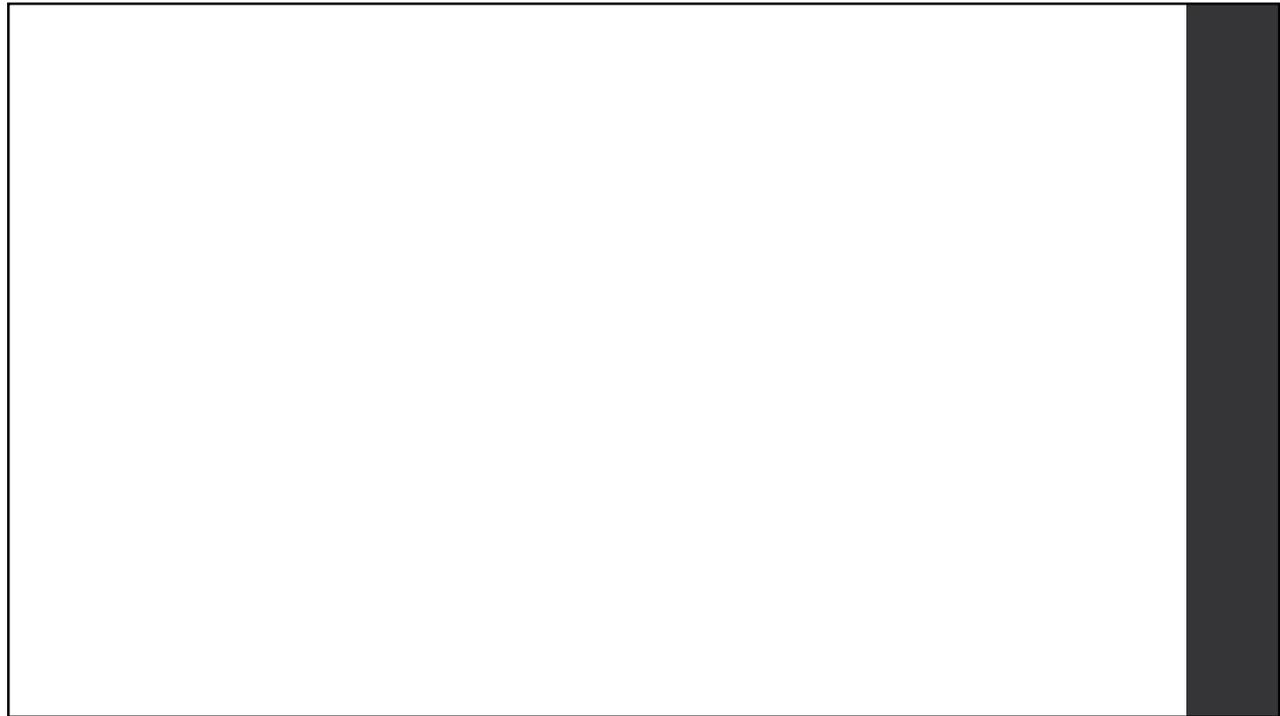
11

Body Movement Terminology

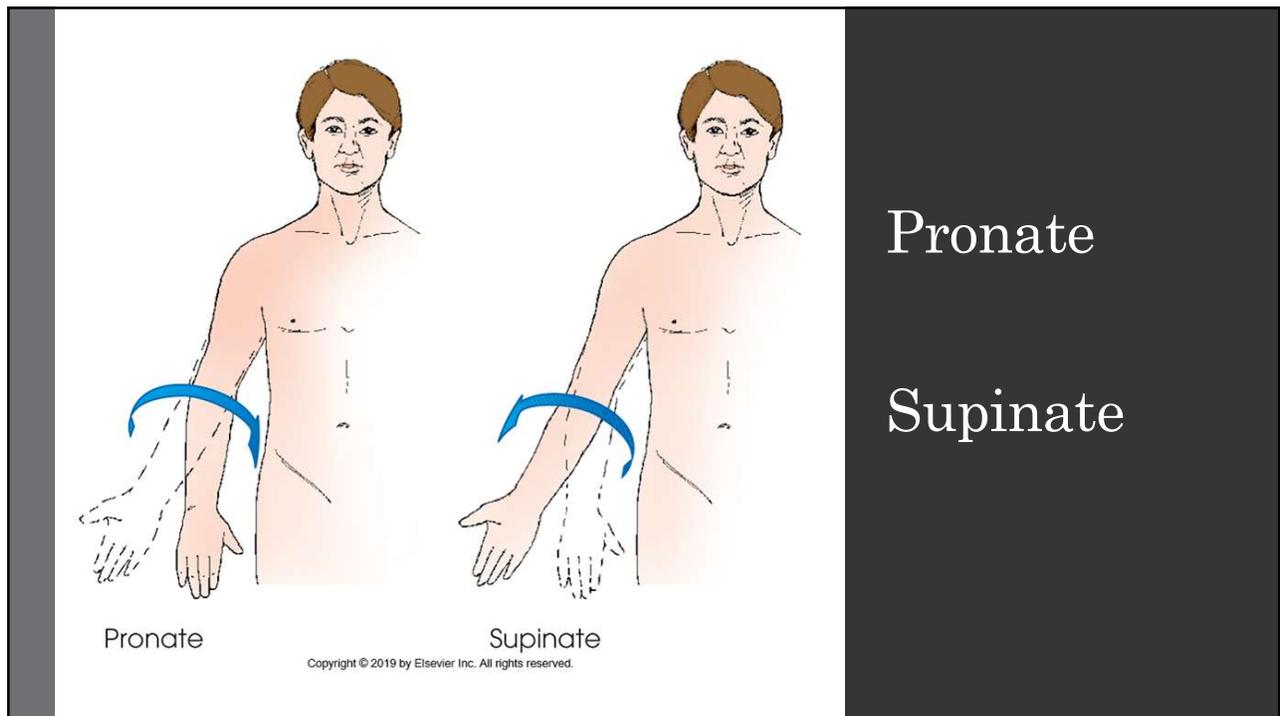
Movement related to limbs used often in positioning description and patient history.

- Supinate
- Pronate
- Abduction
- Adduction
- Eversion
- Inversion
- Extension
- Flexion
- External
- Internal

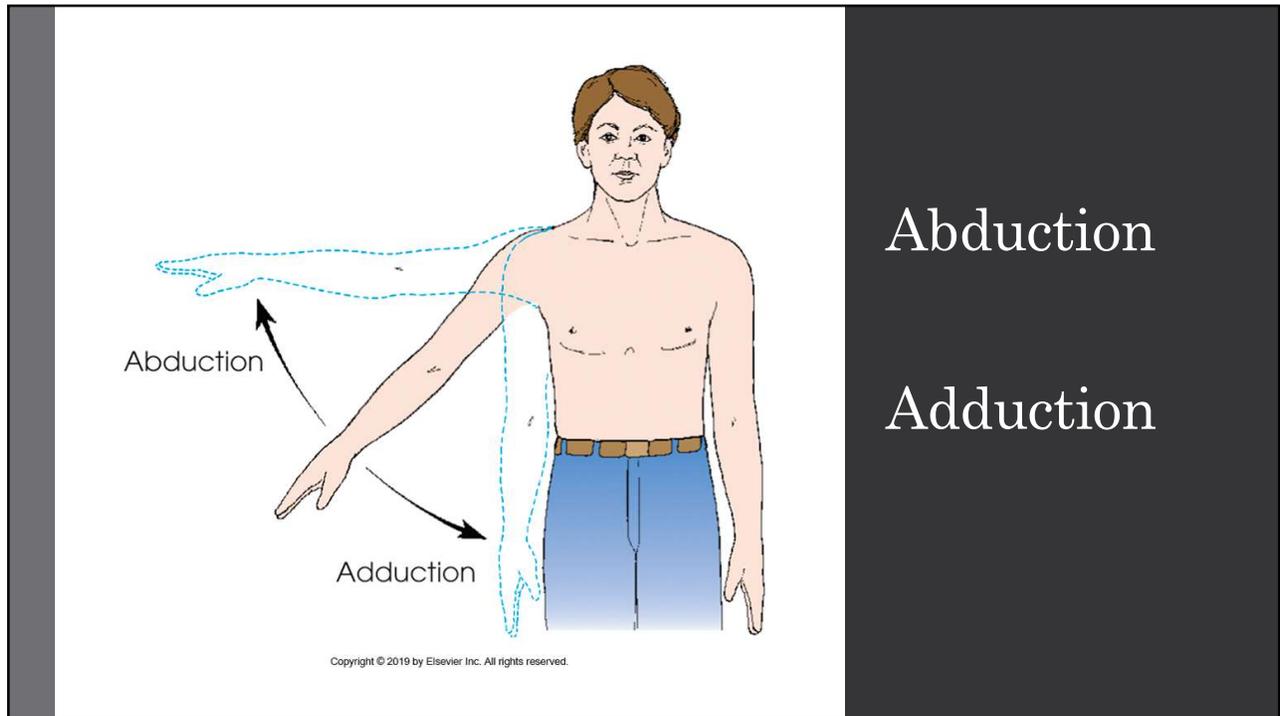
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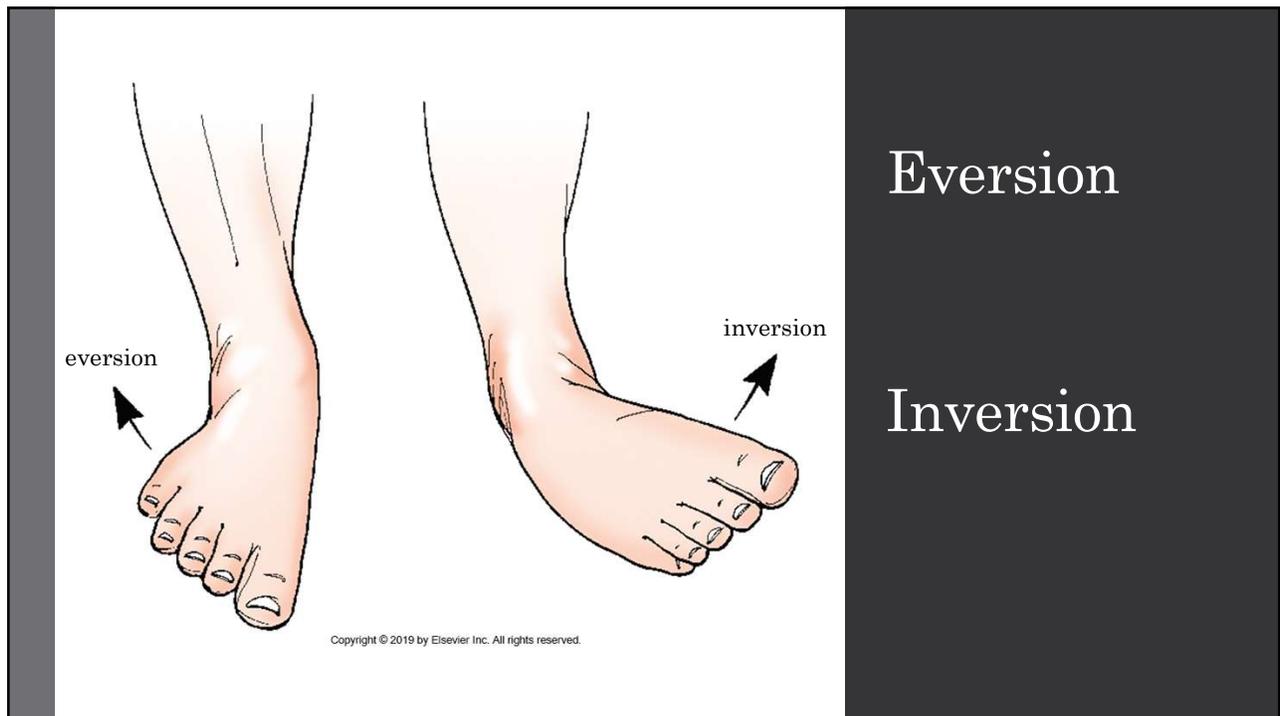
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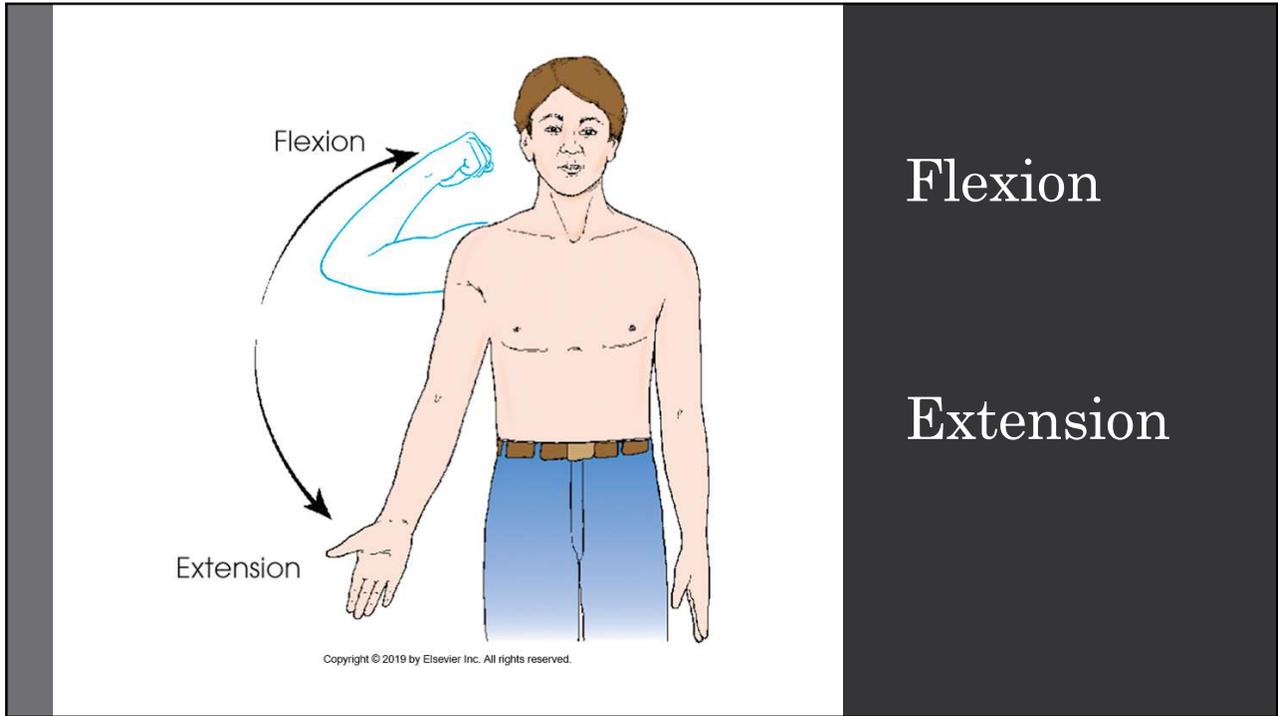
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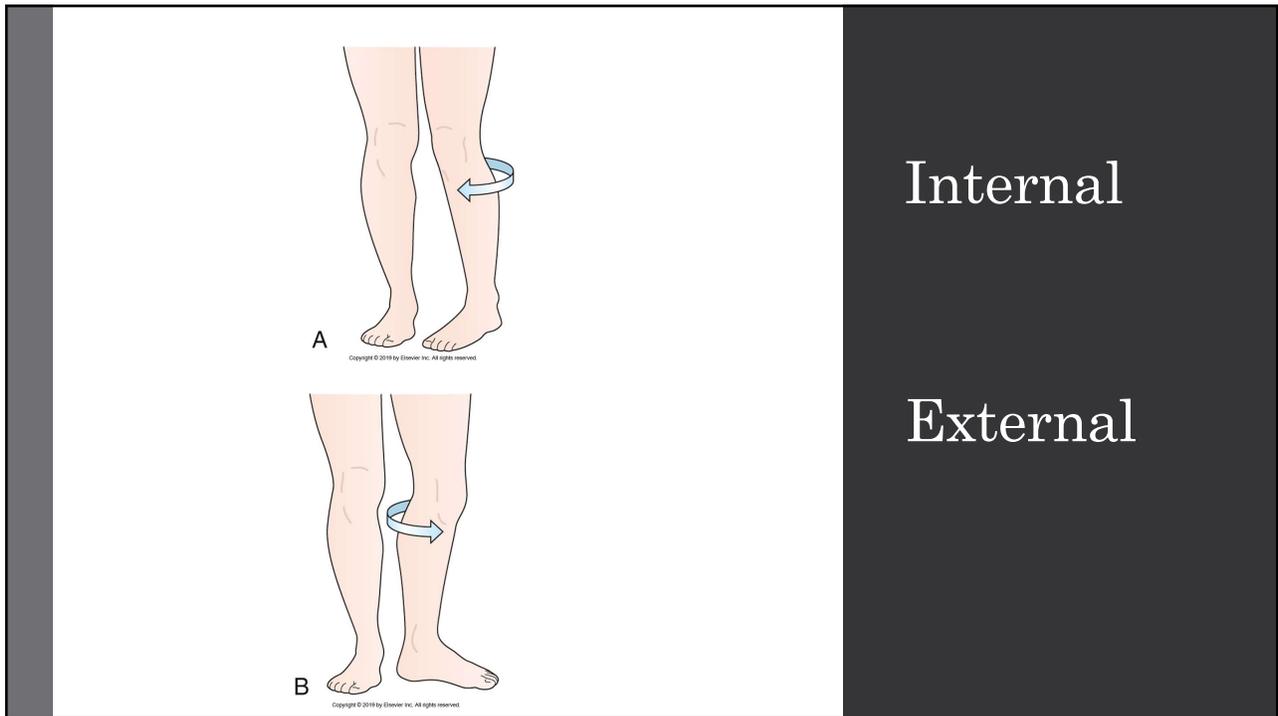
16



Flexion

Extension

17



Internal

External

18

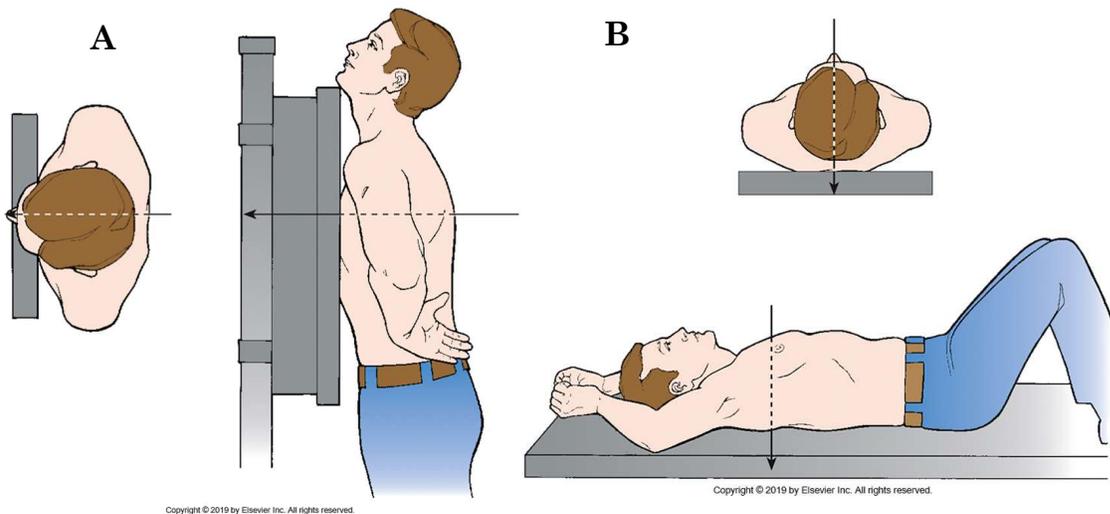
Projection

Described by the **path of the central ray** as it goes through the patient to the IR

- This is based on entrance and exit points in the body and the patient anatomic position
- Regardless of patient position (erect or recumbent)
 - Anteroposterior (AP)
 - Posteroanterior (PA)
 - Lateral Projection
 - Oblique Projection

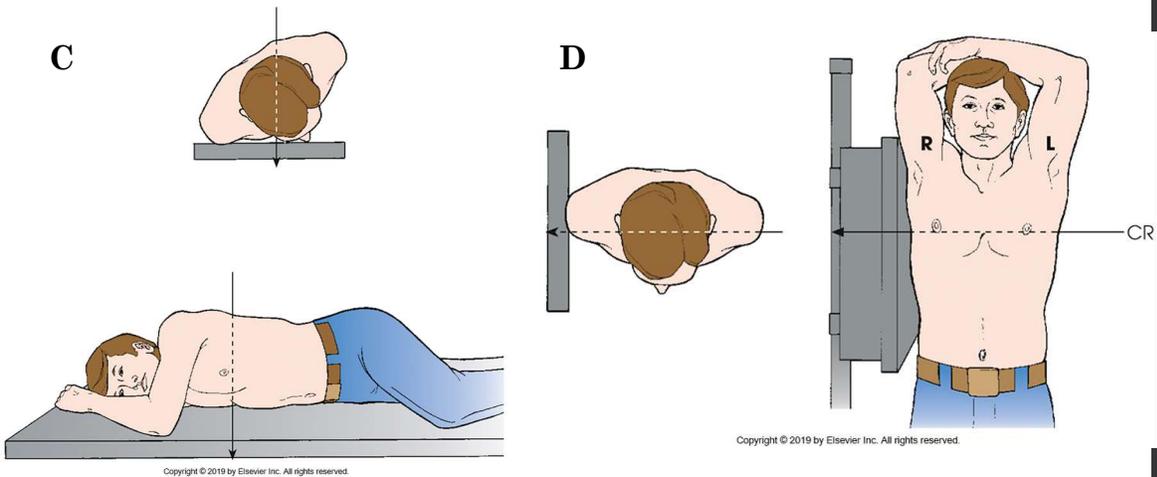
19

Projection and Position



20

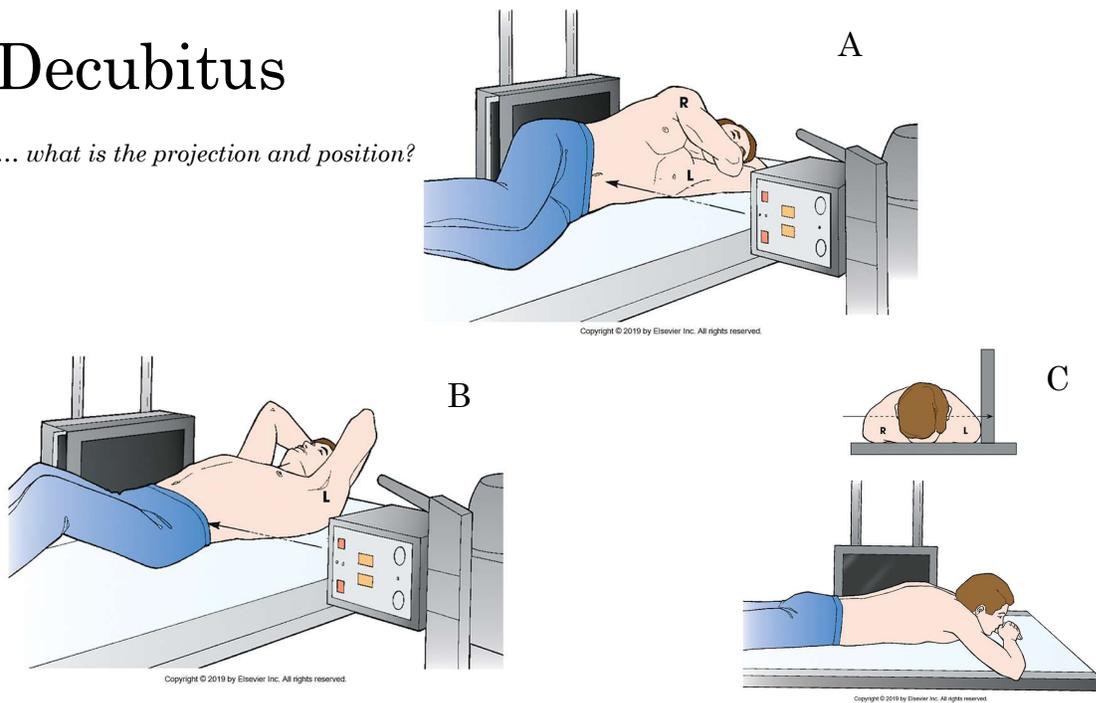
Projection and Position



21

Decubitus

... what is the projection and position?



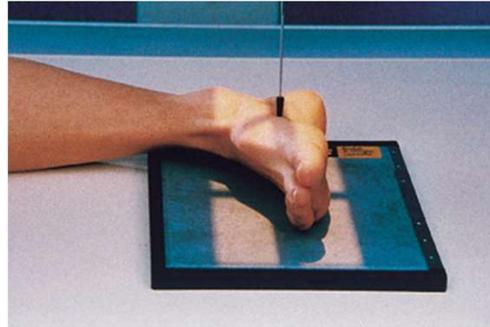
22

Extremities

A



B



23

MI 123: Clinical Seminar I

- ❖ **PROCEDURAL ROUTINE**
- ❖ **DOCUMENTATION/ORDERS**
- ❖ **HISTORY TAKING**
- ❖ **POLICIES:**
 - Patient Valuables
 - "Hand Off" Communication – Hall Pass
 - Imaging Pregnant Patients

24



Steps of a Procedural Routine

25

Types of patients

Private Out (OP) / Outpatient

- Can have a scheduled appointment or be a walk-in
 - Walk in - a patient that does not have an appointment
- Sent in from a physician's office with an order from a physician
- Could result in the need for a Verbal report / Image check

Inpatient

- Nursing Floors
- Intensive Care Units
 - SICU
 - MICU
 - NICU
 - PACU
- Pre-Admission Testing

Emergency Department



26

Procedural
Routine
Pre-
procedure

Review request/control sheet

- **Identify the radiographic procedure requested by the physician**
- **Review the order to evaluate for accuracy**

27



PHYSICIAN ORDER

- A physician orders a certain x-ray for a patient (left hand, right foot, lumbar spine, etc...)
- The physician will:
 - Order the radiographic procedure
 - The order may arrive with the patient (on an order slip/script), be faxed to the facility, or be electronic
 - RH – all radiographic orders expire 14 months after they are prescribed
 - Electronically ordered in EPIC
 - All Inpatients will have orders placed electronically in EPIC

28

Orders

- CPT Code- Current Procedural Terminology (AMA) CHEST PA & LATERAL [71020]
 - Codes that are assigned to every task and service that can be provided to a patient
 - Must be correct for insurance reimbursement/ payments
- ICD-10 Codes- International Statistical Classifications of Diseases
 - Alphanumeric assignments given to diagnosis and symptoms
 - Very detailed and specific

Table 1 – Comparisons of the Diagnosis Code Sets

ICD-9	ICD-10
3-5 characters in length	3-7 characters in length
Approximately 13,000 codes	Approximately 68,000 available codes
First digit may be alpha (E or V) or numeric; digits 2-5 are numeric	Digit 1 is alpha; digits 2 and 3 are numeric; digits 4-7 are alpha or numeric
Limited space for adding new codes	Flexible for adding new codes
Lacks detail	Very specific
Lacks laterality	Has laterality (i.e., codes identifying right vs. left)

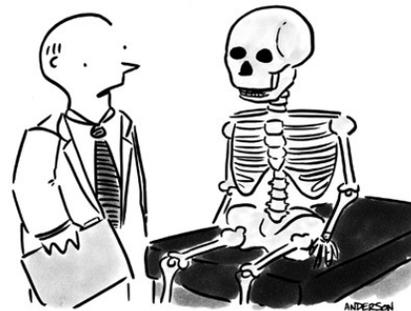
29

Requests

- A paper in which lists:
 - patient name, address, MRN, ordering doctor and phone number, study, codes for charging, numbers to track study in computer (accession number), list of most recent studies performed, etc...
 - Control sheet
 - Requisition
- Can be entered by clerical staff
 - Intake specialist
 - Unit clerks
- Always check the procedure on the request to the physician order to verify procedure
 - If there is a discrepancy, the physician's order is the correct of the two

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"Still, let's do an x-ray just to be sure."

30

Control Sheet vs Request

Reading Hospital
Department of Radiology Diagnostic Order Request

ACCESSION #: 12345678

MRN: 486223

Fox, Hannah

DOB: 8/2/1989, 31 year-old Female
ALLERGIES: Not on File
HEIGHT:
WEIGHT:
ROOM/REQ: O2:
METHOD OF TRANSPORT: ISOLATION:
ACCOUNT: 13000993032
CIN: 30002657465
Primary Insurance: IGA-INDEPENDENCE AETNA
Secondary Insurance:
THIS IS NOT YOUR IMAGING ORDER. YOU MUST VERIFY THE PROCEDURE ORDER IN THE ELECTRONIC MEDICAL RECORD.

PROCEDURE:
XR Nasal Bones Routine

PRIORITY: Routine
DIAGNOSIS: Nasal bone pain [882.2 (ICD-10-CM)]
REASON FOR EXAM: Injury
COMMENTS:
PREVIOUS EXAM: XR Foot
ORDERING MD: Jacob S Good
AUTHORIZING MD: Jacob S Good
PCP MD: Physician, No
Other Exams for Today:

RHSIS Medical Imaging Program
Skills Lab

Order Requisition

Name	MRN	DOB	Sex	Unit	Room/Bed	NAB
Boyer, Kyle	1234568	10/9/1977 (43)	F	EO	COS-005	10000123457

XR Cervical Spine 1 View (Order #: 48276167)

Order Information

Order Date	Service	Start Date	Start Time	End Date
12/8/2020	Emergency Medicine	12/8/2020	0730	12/8/2020

Order Details

Frequency	Duration	Priority	Order Class
1 time imaging	1 occurrence	STAT	Ancillary Performed

Order Questions

Question	Answer	Comments
R/O	03 Fracture/subluxation	Keep pt supine until cleared

Sign Symptom: 03 Pain
Note: the selection of "Other" requires further explanation in the Additional Comments section

Order Provider Info

	Office Phone	Pager/beeper	Email
Ordering User	Frank B Moyes, DO 484-628-3637	--	--
Authorizing Provider	Frank B Moyes, DO 484-628-3637	--	--
Attending Provider	Frank B Moyes, DO 484-628-3637	--	--

RHSIS Medical Imaging Program
Skills Lab

31

Children's Clinic of Wyomissing
2240 Ridgewood Rd, Ste 100
Wyomissing, PA 19610-1286

Phone: 610-376-8691
Fax: 610-376-8745

Ordered By: Salvatore Anzalone, MD
Physician ID: NPID: 1871591180

Date: 02/15/2013
Patient Name: Sex: M
Birthdate: 12/03/1995 Patient ID: 123456
Address:
Home Tel: Day Tel:

Insurance: PA BLUE SHIELD Guarantor DOB:
Insured ID: OPB104378160001 Group #: 02536400
Guarantor: Rel to Guar: CHILD

Requisition: Outside Lab
Requisition ID:
Diagnostic Codes:
786.5 CHEST PAIN
CHEST PA & LATERAL [71020]


 printed 02/15/2013 9:38:24 AM
 Call Report: 610-376-8691

STAT: Fasting:

Example:
Outpatient/Written
order= Transcribed

32

CT Abd / Pelvis W Contrast (Order 88388120)

CT ABD / PELVIS W CONTRAST [88388120]

Electronically signed by: Finn Adamite, MD on 05/06/19 1156

Status: Active

This order may be acted on in another encounter.

Ordering user: Finn Adamite, MD 05/06/19 1156

Ordering provider: Finn Adamite, MD

Authorized by: Finn Adamite, MD

Ordering mode: Standard

Questionnaire

Question	Answer
Is a verbal report needed?	No

Order details

Screening Form

General Information

Patient Name: Kix, Jill	MRN: 3018053
Date of Birth: 9/4/1990	Home Phone: 111-111-1111
Legal Sex: Female	

Procedure	Ordering Provider	Authorizing Provider	Appointment Information
CT ABD / PELVIS W CONTRAST	Finn Adamite, MD	Finn Adamite, MD	5/6/2019 3:30 PM RAD CT A RH RAD CT

Screening Form Questions
No questions have been answered for this form.

*Example: EPIC
Inpatient Order*

Reason for Exam

Abd pain, appendicitis suspected

Priority: Routine

Diagnosis

Rheumatoid osteoperiostitis

Codes

ICD-10-CM: M86.9

ICD-9-CM: 730.20

Comments

33

Military Time

- Military time is based off a 24-hour clock
- Some healthcare facilities utilize military time in documentation



24-Hour Clock (Military Time) Conversion Chart

TIME	24-HOUR TIME	TIME	24-HOUR TIME
12:01 AM	0001	12:01 PM	1201
12:05 AM	0005	12:05 PM	1205
12:30 AM	0030	12:30 PM	1230
12:45 AM	0045	12:45 PM	1245
1:00 AM	0100	1:00 PM	1300
2:00 AM	0200	2:00 PM	1400
3:00 AM	0300	3:00 PM	1500
4:00 AM	0400	4:00 PM	1600
5:00 AM	0500	5:00 PM	1700
6:00 AM	0600	6:00 PM	1800
7:00 AM	0700	7:00 PM	1900
8:00 AM	0800	8:00 PM	2000
9:00 AM	0900	9:00 PM	2100
10:00 AM	1000	10:00 PM	2200
11:00 AM	1100	11:00 PM	2300
12:00 NOON	1200	12:00 MIDNIGHT	2400

34

Procedural Routine Pre-Procedure

Equipment preparation

- Radiographic room is prepared, with necessary supplies in place before the patient arrives in the room (Sheet is placed on the table, shield, sponges, etc.)
- X-Ray tube in position with applicable equipment readily available

Operating console preparation:

- Verify correct selection of patient name/MRN/accession #
- Enter HS# if applicable
- Select proper study/view within the operation console
- Select and verify appropriate kVp, mA and time/mAs, and ionization chambers (as necessary)

35

Procedural Routine Pre-Procedure

Retrieve patient from waiting area

- Introduce self
- Verify patient ID
- Address footwear and question pain meds/stability if applicable

The patient is properly gowned with all unnecessary/interfering clothing, jewelry, dentures, etc. removed

36

Procedural Routine Procedure

- **Escort the patient safely into the room** – Evaluation of medication/footwear, Patient Valuables (Review policy); Hand-Off Communication (Review policy)
- **Introduce yourself to the patient as a student as well as introduction of your technologist/Faculty**
 - Permission to participate in study
- **Re-confirm patient identification** – 2 patient identifiers



37

Procedural Routine Procedure

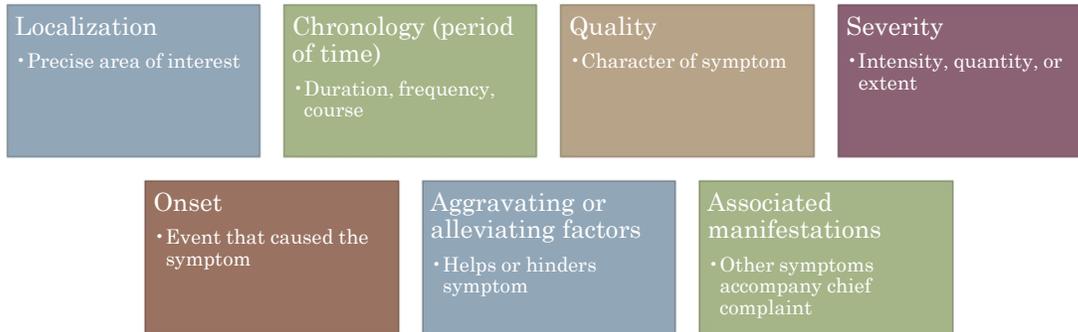
- **Obtain LMP/Pregnancy Status** – (Review policy)
 - Imaging Pregnant Patient Policy
 - Why? Importance?
 - 8-55 years of age
 - 2-part question
 - **First** day of last menstrual period/cycle?
 - Assess for chance of pregnancy – “Is there any chance of pregnancy?”



38

Obtain History

Sacred Seven

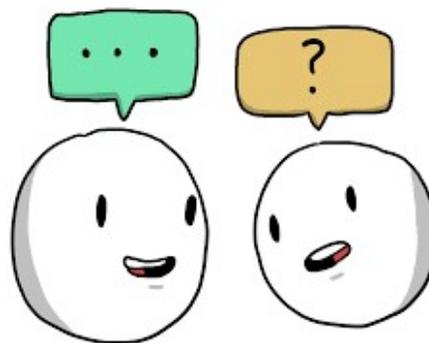


39

Effective Histories

- Open ended questions
- Probing question to focus on details
- Encourage elaboration
- Give the patient time to collect their thoughts
- Repetition or rewording
- Summarize to verify history

*Includes subjective (perceived) and objective (signs seen) data



40

Procedural Routine Procedure

- **Procedure explained to the patient**
- **Take precautionary measures to ensure patient safety** - application of brakes, footwear
- **Radiation protection practices applied** – appropriate gonadal shielding based on path of central ray
- **Assistance provided to patient during positioning**
- **Collimation appropriate for view**
- **Correctly manipulate equipment to obtain designated centering/projection**
- **Communicate breathing or movement instructions**



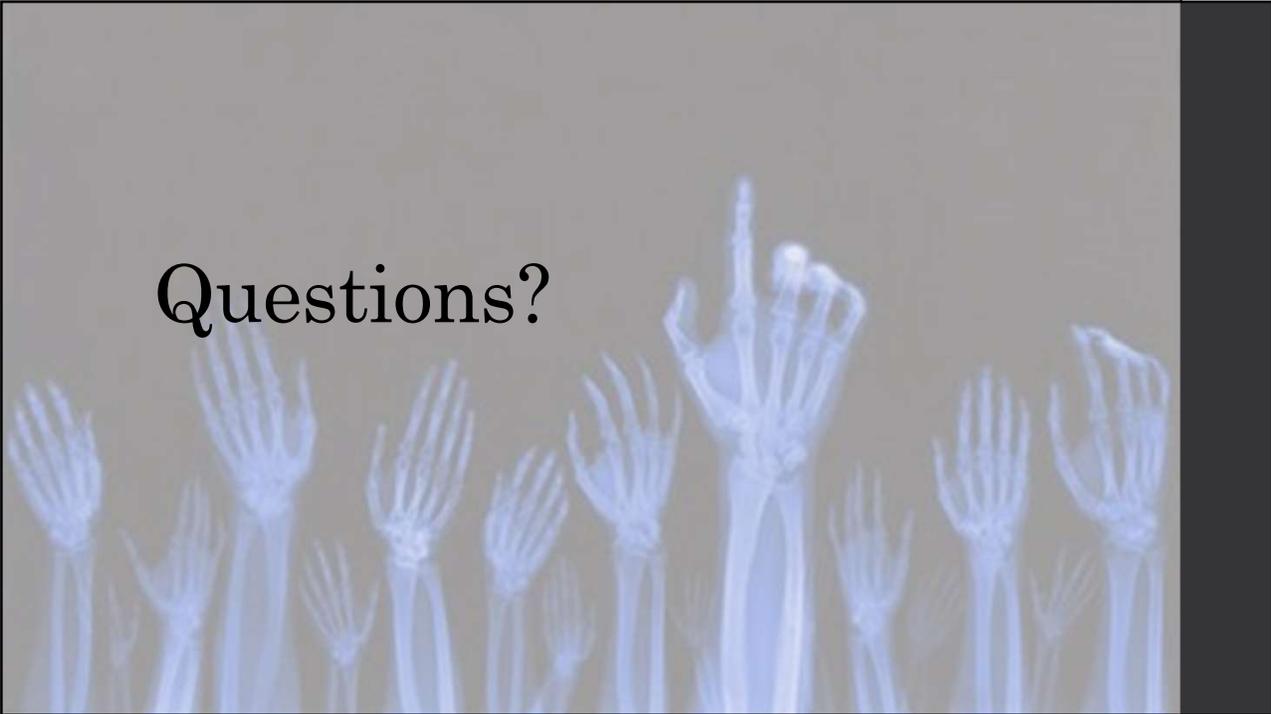
41

Procedural Routine Post-Procedure

- **Correctly dismiss patient from procedure**
 - Verbal Report/Image Check
- **Verify images sent to PACS with technologist approval**
- **Complete EPIC documentation**



42



43

MI 123: Clinical Seminar I Lecture #2

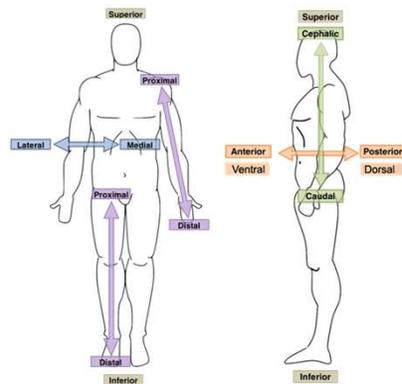
Mrs. Heather Herb

Standard Terms

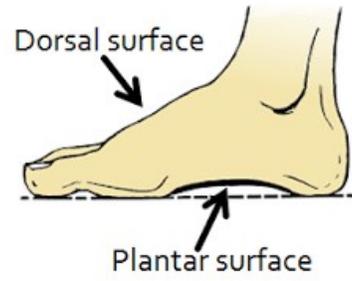
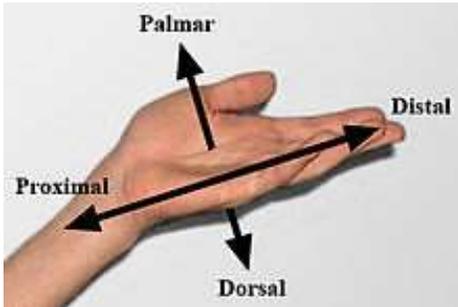
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Standard Terms

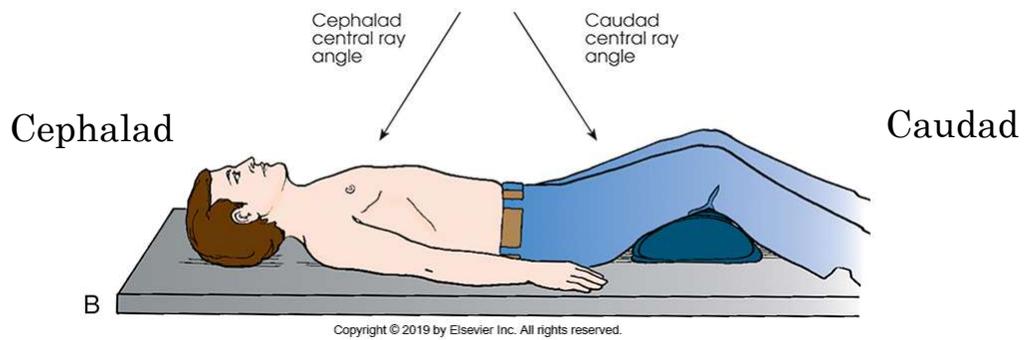
- Anterior (Ventral)
- Posterior (Dorsal)
- Lateral
- Medial
- Superior
- Inferior
- Proximal
- Distal
- Caudad
- Cephalad
- Palmar
- Plantar



2



3

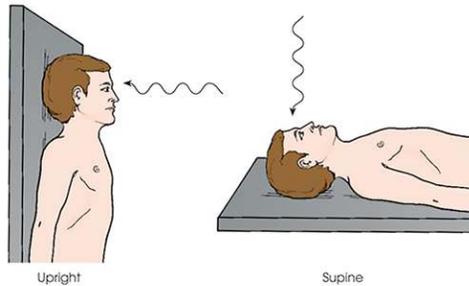


4

Positions

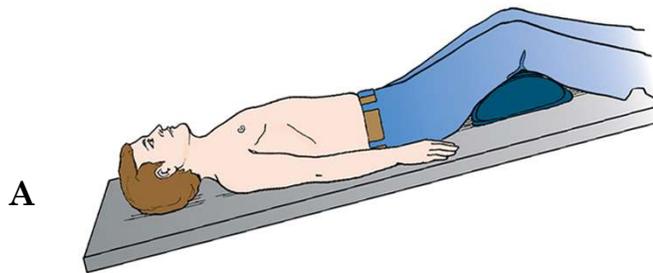
Identification of the overall posture of the patient or the general body position

- Recumbent
- Supine
- Prone
- Erect / Upright
- Trendelenburg

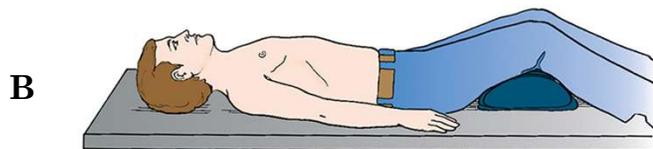


Supine
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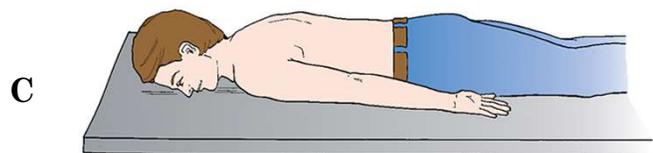
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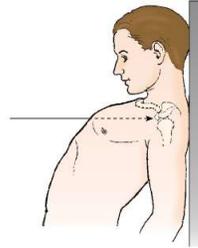
6

Radiographic Body Positions

Placement of the body part in relation to the radiographic table or IR during imaging

- Anterior
- Posterior
- Lordotic

- Lateral
- Decubitus
- Oblique



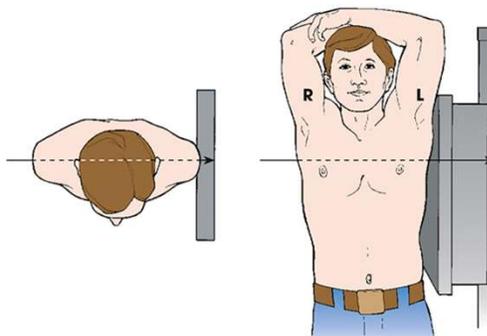
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7

Radiographic Body Positions

- Lateral
 - Further described as a right or left lateral depending on side against the image receptor

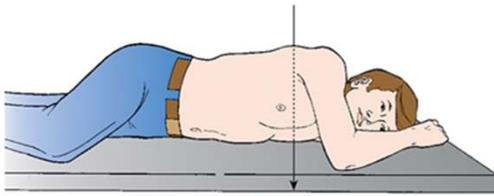
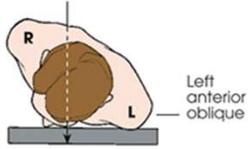
- Oblique
 - Further specified according to patient's relationship to the image receptor.
 - Right Posterior Oblique (RPO)
 - Left Posterior Oblique (LPO)
 - Right Anterior Oblique (RAO)
 - Left Anterior Oblique (LAO)



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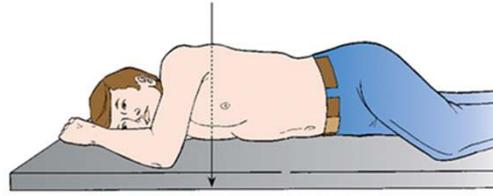
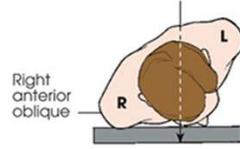
8

LAO- left anterior oblique



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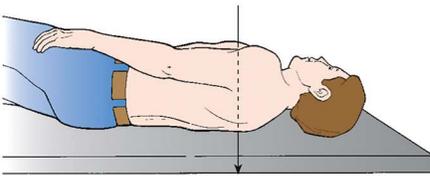
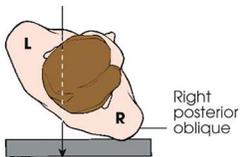
RAO- right anterior oblique



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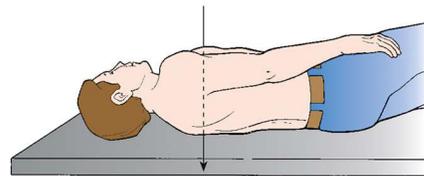
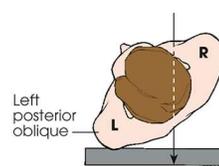
9

RPO- right posterior oblique



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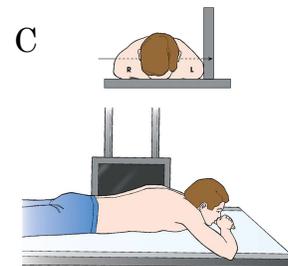
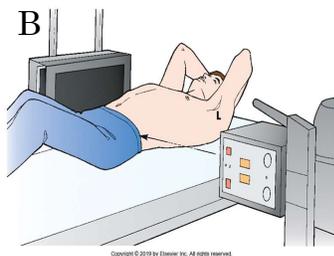
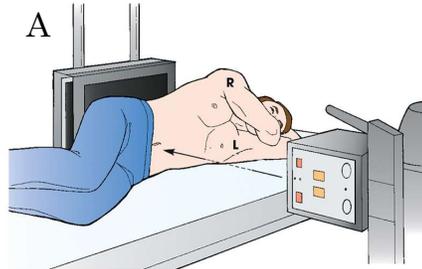
LPO- left posterior oblique



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10

Decubitus



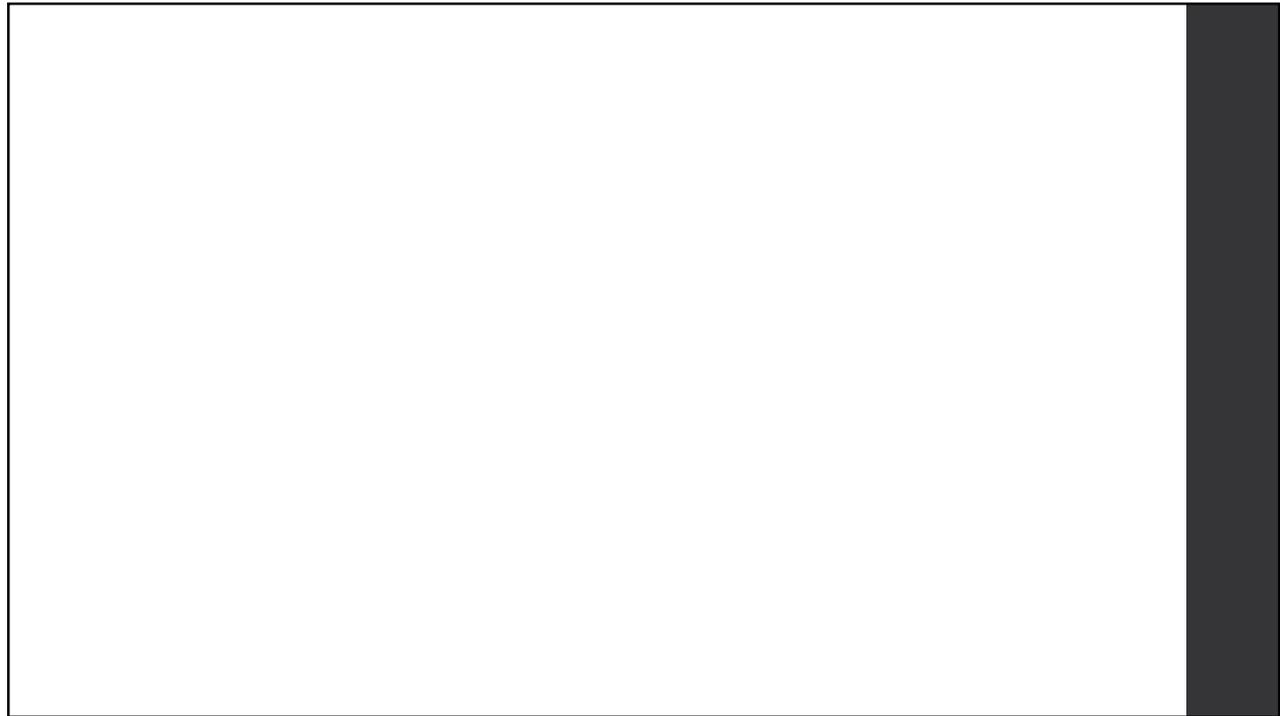
11

Body Movement Terminology

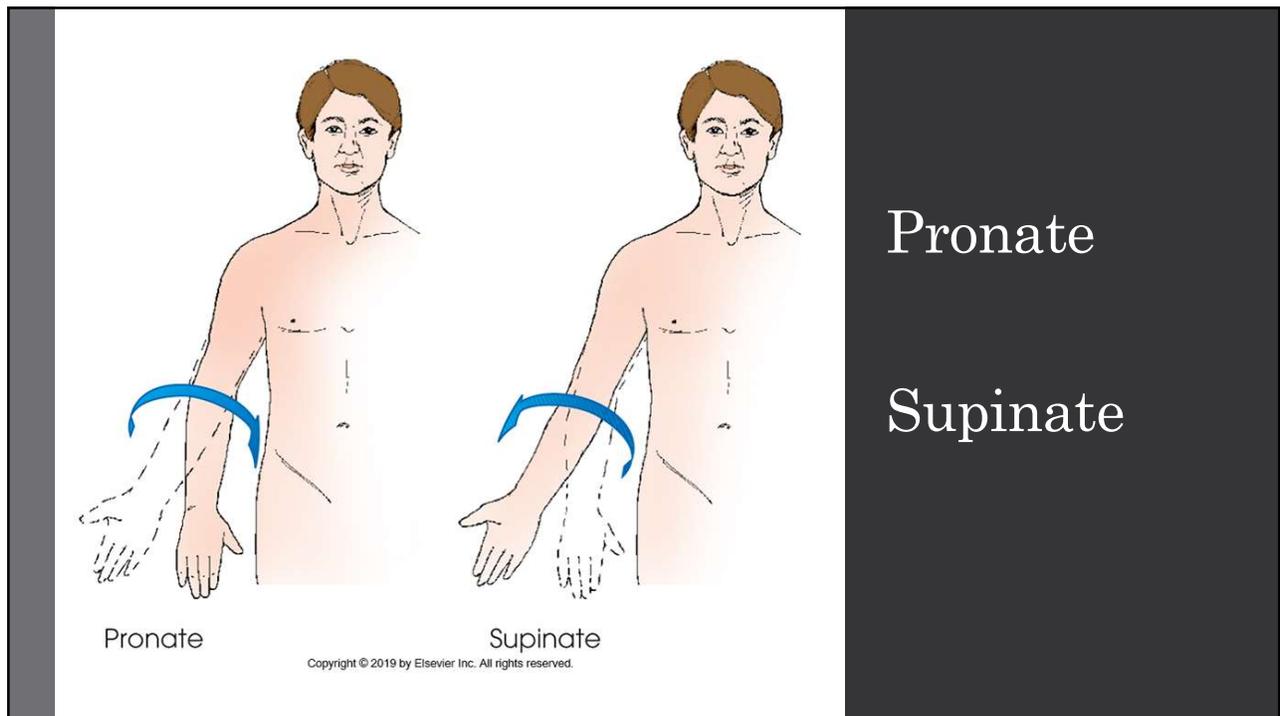
Movement related to limbs used often in positioning description and patient history.

- Supinate
- Pronate
- Abduction
- Adduction
- Eversion
- Inversion
- Extension
- Flexion
- External
- Internal

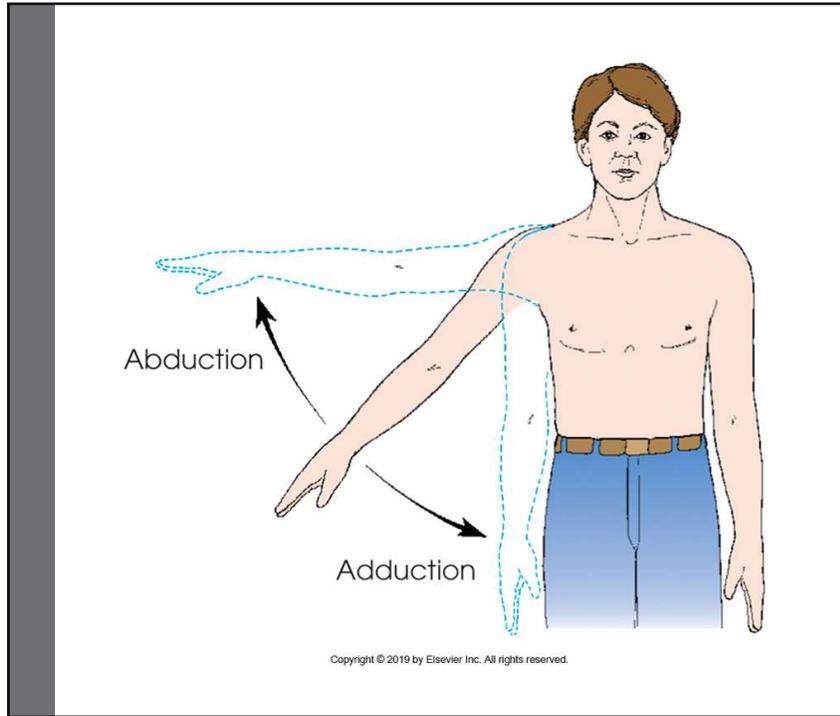
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13



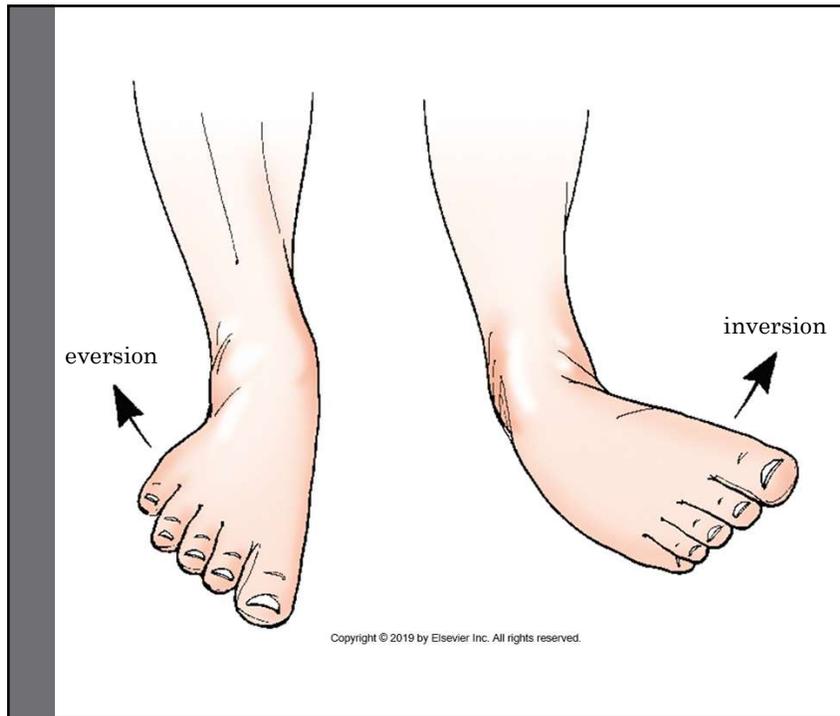
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Abduction

Adduction

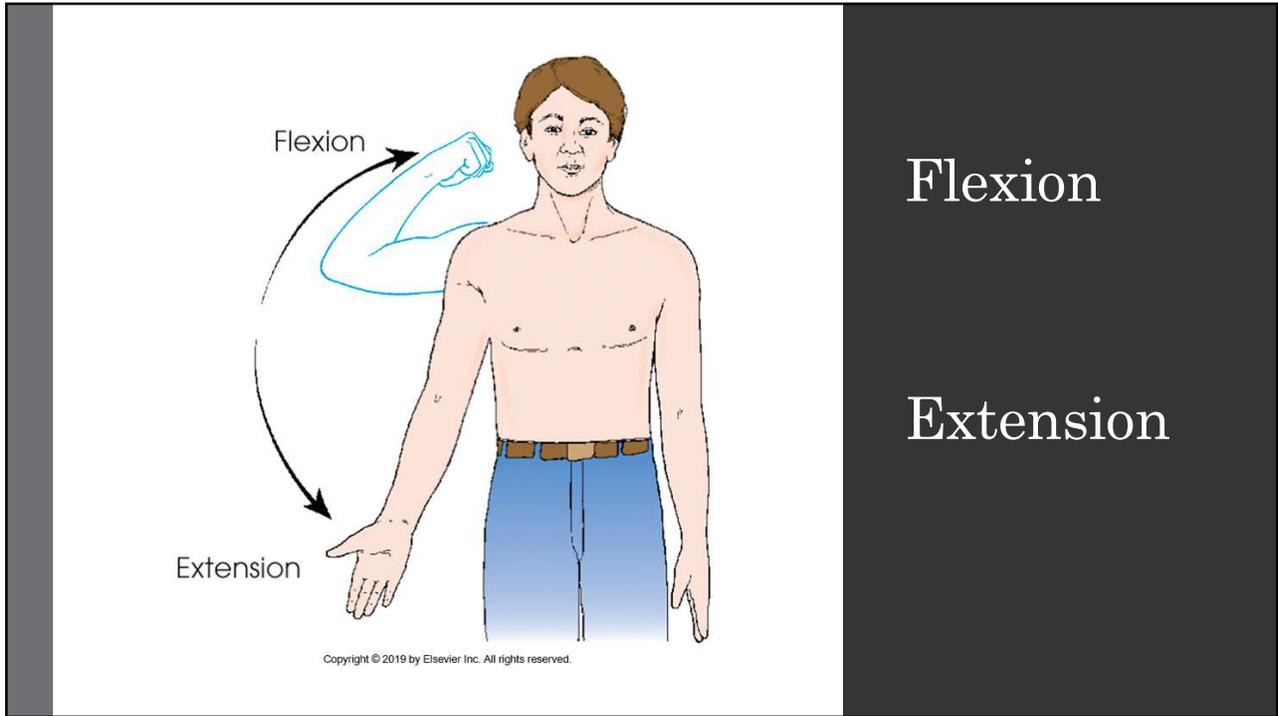
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Eversion

Inversion

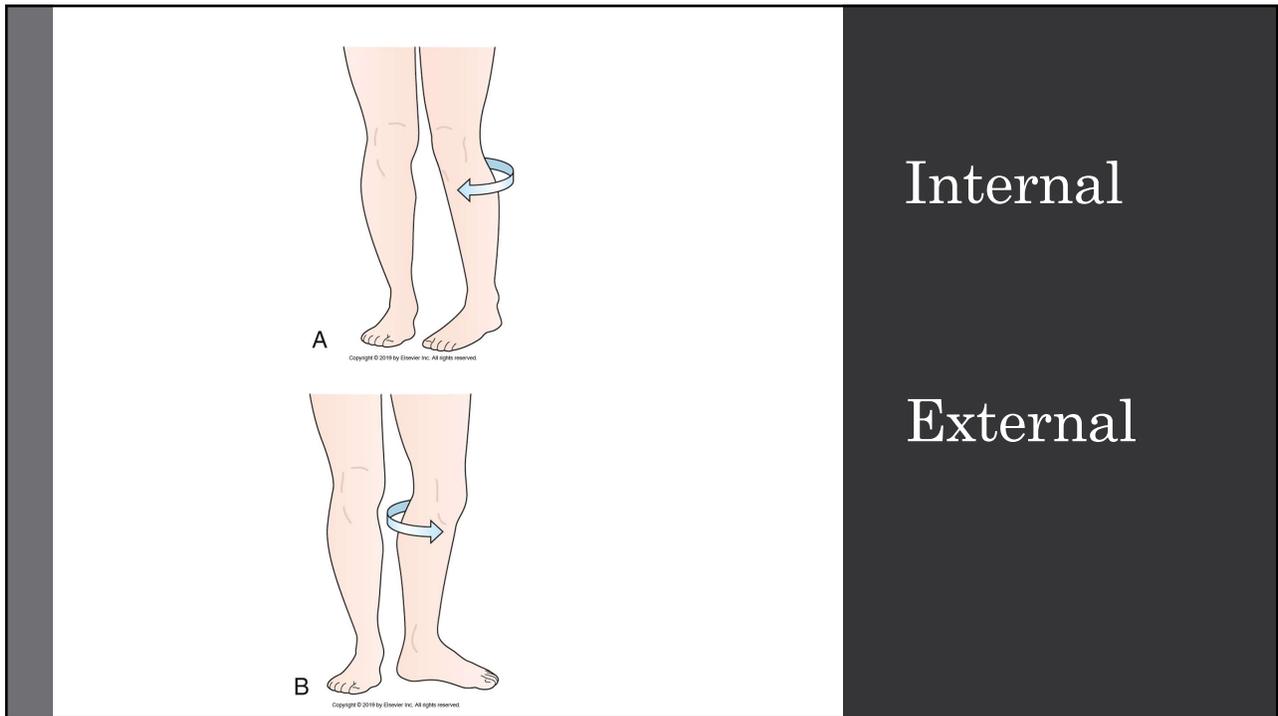
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Flexion

Extension

17



Internal

External

18

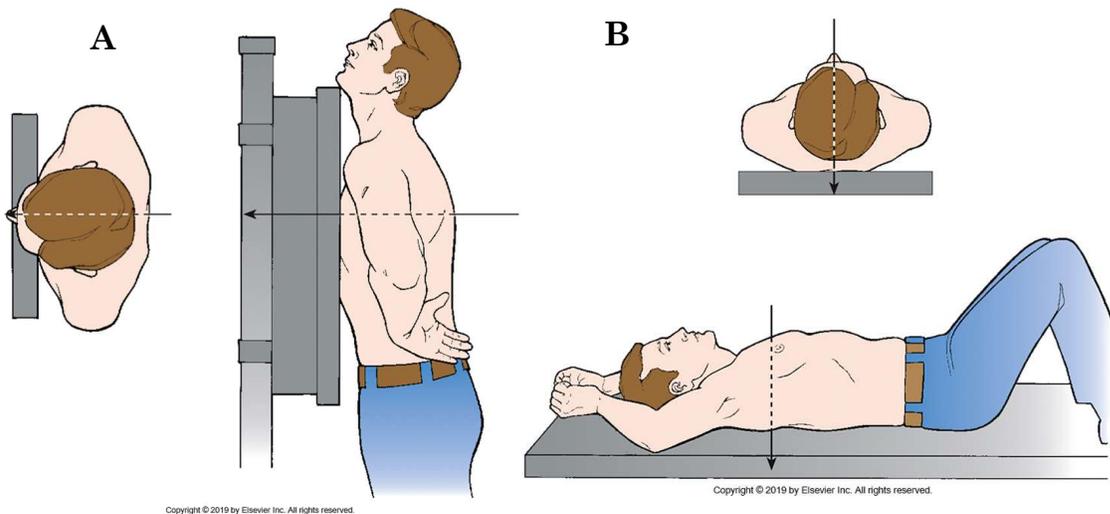
Projection

Described by the **path of the central ray** as it goes through the patient to the IR

- This is based on entrance and exit points in the body and the patient anatomic position
- Regardless of patient position (erect or recumbent)
 - Anteroposterior (AP)
 - Posteroanterior (PA)
 - Lateral Projection
 - Oblique Projection

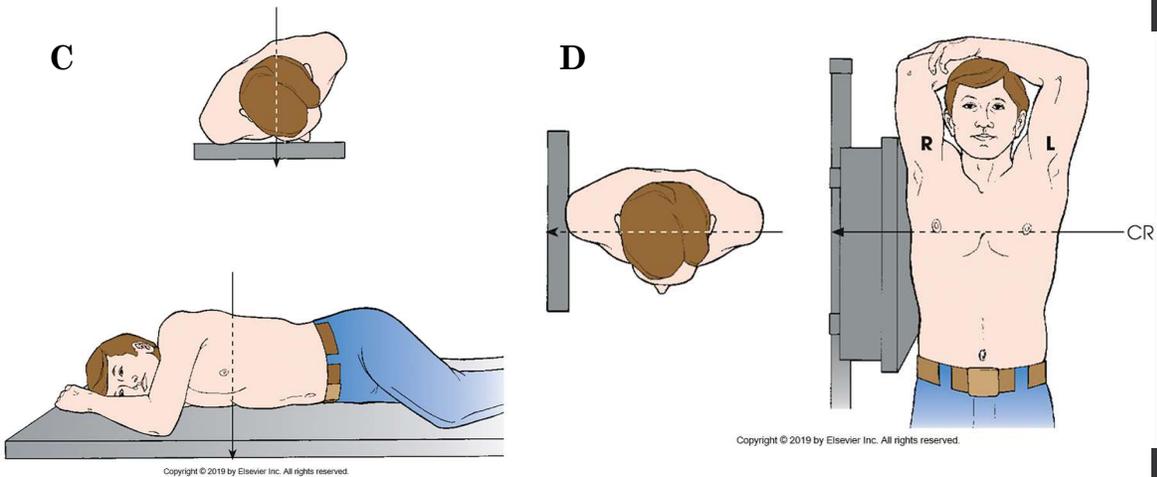
19

Projection and Position



20

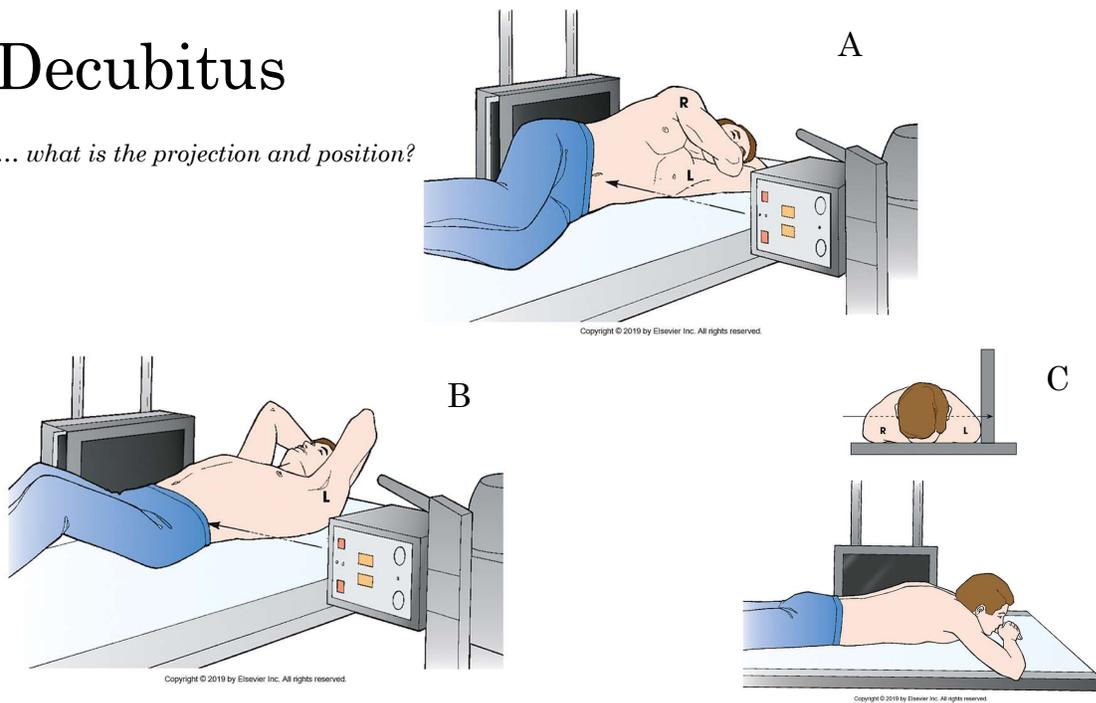
Projection and Position



21

Decubitus

... what is the projection and position?



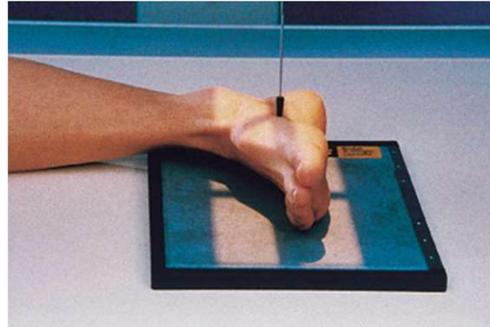
22

Extremities

A



B



23

MI 123: Clinical Seminar I

- ❖ **PROCEDURAL ROUTINE**
- ❖ **DOCUMENTATION/ORDERS**
- ❖ **HISTORY TAKING**
- ❖ **POLICIES:**
 - Patient Valuables
 - "Hand Off" Communication – Hall Pass
 - Imaging Pregnant Patients

24



Steps of a Procedural Routine

25

Types of patients

Private Out (OP) / Outpatient

- Can have a scheduled appointment or be a walk-in
 - Walk in - a patient that does not have an appointment
- Sent in from a physician's office with an order from a physician
- Could result in the need for a Verbal report / Image check

Inpatient

- Nursing Floors
- Intensive Care Units
 - SICU
 - MICU
 - NICU
 - PACU
- Pre-Admission Testing

Emergency Department



26

Procedural
Routine
Pre-
procedure

Review request/control sheet

- **Identify the radiographic procedure requested by the physician**
- **Review the order to evaluate for accuracy**

27



PHYSICIAN ORDER

- A physician orders a certain x-ray for a patient (left hand, right foot, lumbar spine, etc...)
- The physician will:
 - Order the radiographic procedure
 - The order may arrive with the patient (on an order slip/script), be faxed to the facility, or be electronic
 - RH – all radiographic orders expire 14 months after they are prescribed
 - Electronically ordered in EPIC
 - All Inpatients will have orders placed electronically in EPIC

28

Orders

- CPT Code- Current Procedural Terminology (AMA) CHEST PA & LATERAL [71020]
 - Codes that are assigned to every task and service that can be provided to a patient
 - Must be correct for insurance reimbursement/ payments
- ICD-10 Codes- International Statistical Classifications of Diseases
 - Alphanumeric assignments given to diagnosis and symptoms
 - Very detailed and specific

Table 1 – Comparisons of the Diagnosis Code Sets

ICD-9	ICD-10
3-5 characters in length	3-7 characters in length
Approximately 13,000 codes	Approximately 68,000 available codes
First digit may be alpha (E or V) or numeric; digits 2-5 are numeric	Digit 1 is alpha; digits 2 and 3 are numeric; digits 4-7 are alpha or numeric
Limited space for adding new codes	Flexible for adding new codes
Lacks detail	Very specific
Lacks laterality	Has laterality (i.e., codes identifying right vs. left)

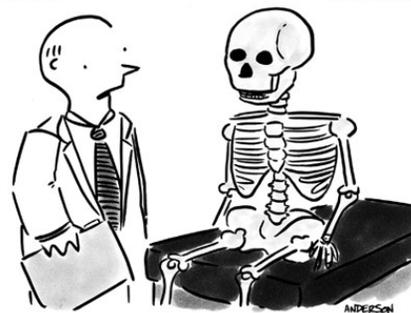
29

Requests

- A paper in which lists:
 - patient name, address, MRN, ordering doctor and phone number, study, codes for charging, numbers to track study in computer (accession number), list of most recent studies performed, etc...
 - Control sheet
 - Requisition
- Can be entered by clerical staff
 - Intake specialist
 - Unit clerks
- Always check the procedure on the request to the physician order to verify procedure
 - If there is a discrepancy, the physician's order is the correct of the two

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"Still, let's do an x-ray just to be sure."

30

Control Sheet vs Request

Reading Hospital
Department of Radiology Diagnostic Order Request

ACCESSION #: 12345678

MRN: 486223

Fox, Hannah

DOB: 8/2/1989, 31 year-old Female
ALLERGIES: Not on File
HEIGHT:
WEIGHT:
ROOM/REQ: O2:
METHOD OF TRANSPORT: ISOLATION:
ACCOUNT: 13000993032
CIN: 30002657465
Primary Insurance: IGA-INDEPENDENCE AETNA
Secondary Insurance:
THIS IS NOT YOUR IMAGING ORDER. YOU MUST VERIFY THE PROCEDURE ORDER IN THE ELECTRONIC MEDICAL RECORD.

PROCEDURE:
XR Nasal Bones Routine

PRIORITY: Routine
DIAGNOSIS: Nasal bone pain [882.2 (ICD-10-CM)]
REASON FOR EXAM: Injury
COMMENTS:
PREVIOUS EXAM: XR Foot
ORDERING MD: Jacob S Good
AUTHORIZING MD: Jacob S Good
PCP MD: Physician, No
Other Exams for Today:

RHSIS Medical Imaging Program
Skills Lab

Order Requisition

Name	MSN	DOB	Sex	Unit	Room/Bed	NAB
Boyer, Kyle	1234568	10/01/1977 (43)	F	EO	COS-005	1000002123457

XR Cervical Spine 1 View (Order #: 48276167)

Order Information

Order Date	Service	Start Date	Start Time	End Date
12/8/2020	Emergency Medicine	12/8/2020	0730	12/8/2020

Order Details

Frequency	Duration	Priority	Order Class
1 time imaging	1 occurrence	STAT	Ancillary Performed

Order Questions

Question	Answer	Comments
R/O	03 Fracture/subluxation	Keep pt supine until cleared

Sign Symptom: 03 Pain
Note: the selection of "Other" requires further explanation in the Additional Comments section

Order Provider Info

	Office Phone	Pager/Beeper	Email
Ordering User: Frank B Moyes, DO	484-628-3637	--	--
Authorizing Provider: Frank B Moyes, DO	484-628-3637	--	--
Attending Provider: Frank B Moyes, DO	484-628-3637	--	--

RHSIS Medical Imaging Program
Skills Lab

31

Children's Clinic of Wyomissing
2240 Ridgewood Rd, Ste 100
Wyomissing, PA 19610-1286

Phone: 610-376-8691
Fax: 610-376-8745

Ordered By: Salvatore Anzalone, MD
Physician ID: NPID: 1871591180

Date: 02/15/2013
Patient Name: Sex: M
Birthdate: 12/03/1995 Patient ID: 123456
Address: Day Tel:
Home Tel:

Insurance: PA BLUE SHIELD Guarantor DOB:
Insured ID: OPB104378160001 Group #: 02536400
Guarantor: Rel to Guar: CHILD

Requisition: Outside Lab
Requisition ID:
Diagnostic Codes:
786.5 CHEST PAIN
CHEST PA & LATERAL [71020]

Salvatore Anzalone

STAT: Fasting: printed 02/15/2013 9:38:24 AM
Call Report: 610-376-8691

Example:
**Outpatient/Written
order= Transcribed**

32

CT Abd / Pelvis W Contrast (Order 88388120)

CT ABD / PELVIS W CONTRAST [88388120]

Electronically signed by: Finn Adamite, MD on 05/06/19 1156

Status: Active

This order may be acted on in another encounter.

Ordering user: Finn Adamite, MD 05/06/19 1156

Ordering provider: Finn Adamite, MD

Authorized by: Finn Adamite, MD

Ordering mode: Standard

Questionnaire

Question	Answer
Is a verbal report needed?	No

Order details

Screening Form

General Information

Patient Name: Kix, Jill	MRN: 3018053
Date of Birth: 9/4/1990	Home Phone: 111-111-1111
Legal Sex: Female	

Procedure	Ordering Provider	Authorizing Provider	Appointment Information
CT ABD / PELVIS W CONTRAST	Finn Adamite, MD	Finn Adamite, MD	5/6/2019 3:30 PM RAD CT A RH RAD CT

Screening Form Questions

No questions have been answered for this form.

*Example: EPIC
Inpatient Order*

Reason for Exam

Abd pain, appendicitis suspected

Priority: Routine

Diagnosis

Rheumatoid osteoperiostitis

Codes

ICD-10-CM: M86.9

ICD-9-CM: 730.20

Comments

33

Military Time

- Military time is based off a 24-hour clock
- Some healthcare facilities utilize military time in documentation



24-Hour Clock (Military Time) Conversion Chart

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3:00 AM	0300	3:00 PM	1500
4:00 AM	0400	4:00 PM	1600
5:00 AM	0500	5:00 PM	1700
6:00 AM	0600	6:00 PM	1800
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10:00 AM	1000	10:00 PM	2200
11:00 AM	1100	11:00 PM	2300
12:00 NOON	1200	12:00 MIDNIGHT	2400

34

Procedural Routine Pre-Procedure

Equipment preparation

- Radiographic room is prepared, with necessary supplies in place before the patient arrives in the room (Sheet is placed on the table, shield, sponges, etc.)
- X-Ray tube in position with applicable equipment readily available

Operating console preparation:

- Verify correct selection of patient name/MRN/accession #
- Enter HS# if applicable
- Select proper study/view within the operation console
- Select and verify appropriate kVp, mA and time/mAs, and ionization chambers (as necessary)

35

Procedural Routine Pre-Procedure

Retrieve patient from waiting area

- Introduce self
- Verify patient ID
- Address footwear and question pain meds/stability if applicable

The patient is properly gowned with all unnecessary/interfering clothing, jewelry, dentures, etc. removed

36

Procedural Routine Procedure

- **Escort the patient safely into the room** – Evaluation of medication/footwear, Patient Valuables (Review policy); Hand-Off Communication (Review policy)
- **Introduce yourself to the patient as a student as well as introduction of your technologist/Faculty**
 - Permission to participate in study
- **Re-confirm patient identification** – 2 patient identifiers



37

Procedural Routine Procedure

- **Obtain LMP/Pregnancy Status** – (Review policy)
 - Imaging Pregnant Patient Policy
 - Why? Importance?
 - 8-55 years of age
 - 2-part question
 - **First** day of last menstrual period/cycle?
 - Assess for chance of pregnancy – “Is there any chance of pregnancy?”



38

Obtain History

Sacred Seven

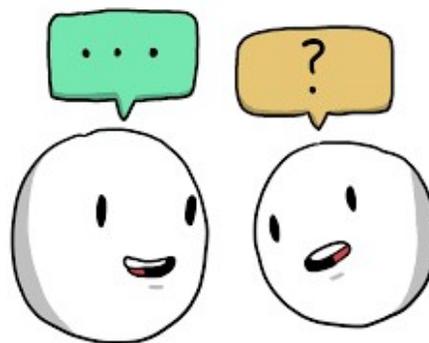


39

Effective Histories

- Open ended questions
- Probing question to focus on details
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*Includes subjective (perceived) and objective (signs seen) data



40

Procedural Routine Procedure

- **Procedure explained to the patient**
- **Take precautionary measures to ensure patient safety** - application of brakes, footwear
- **Radiation protection practices applied** – appropriate gonadal shielding based on path of central ray
- **Assistance provided to patient during positioning**
- **Collimation appropriate for view**
- **Correctly manipulate equipment to obtain designated centering/projection**
- **Communicate breathing or movement instructions**



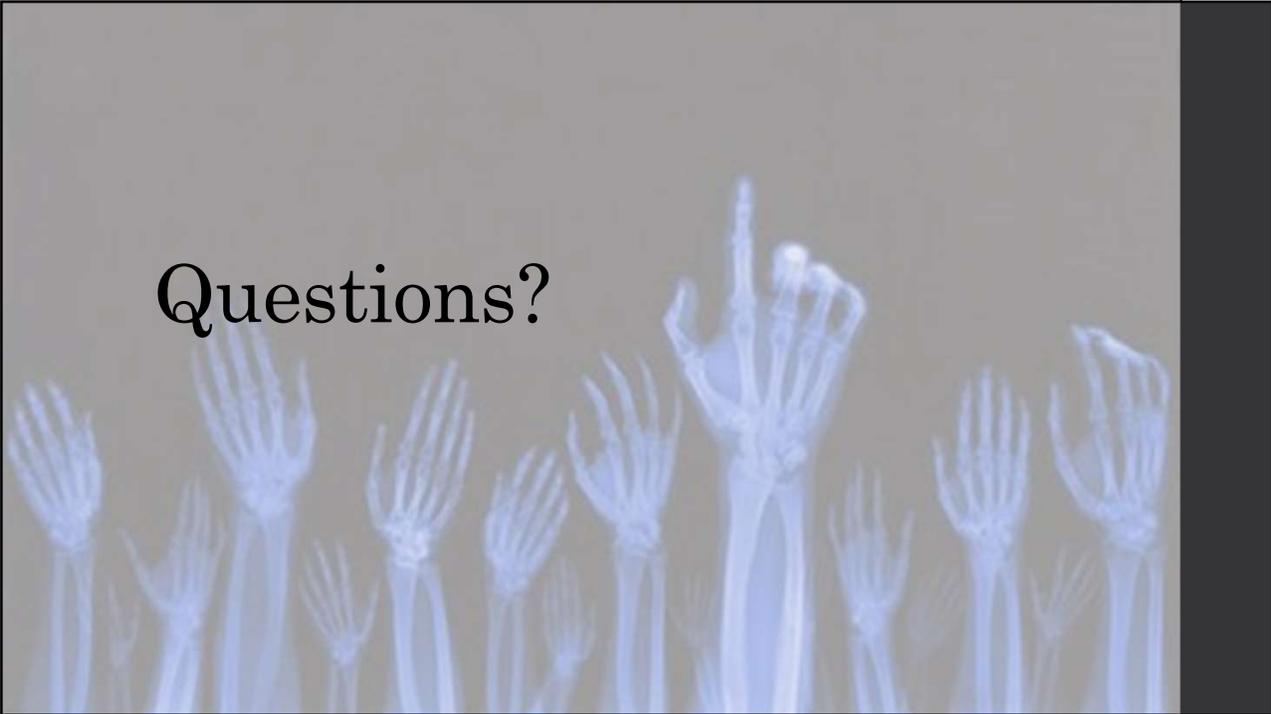
41

Procedural Routine Post-Procedure

- **Correctly dismiss patient from procedure**
 - Verbal Report/Image Check
- **Verify images sent to PACS with technologist approval**
- **Complete EPIC documentation**



42



43

MI 123: Clinical Seminar I Lecture #2

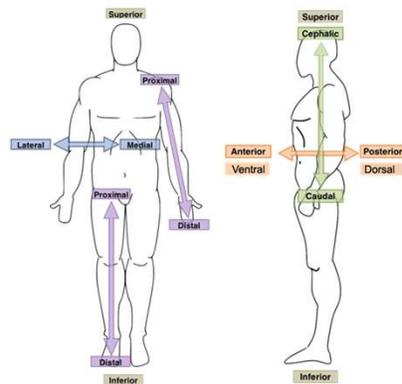
Mrs. Heather Herb

Standard Terms

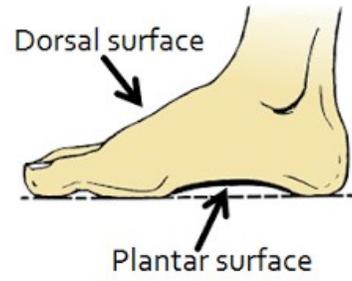
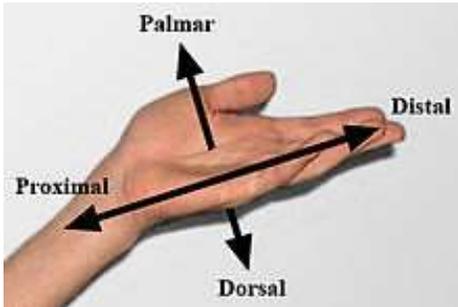
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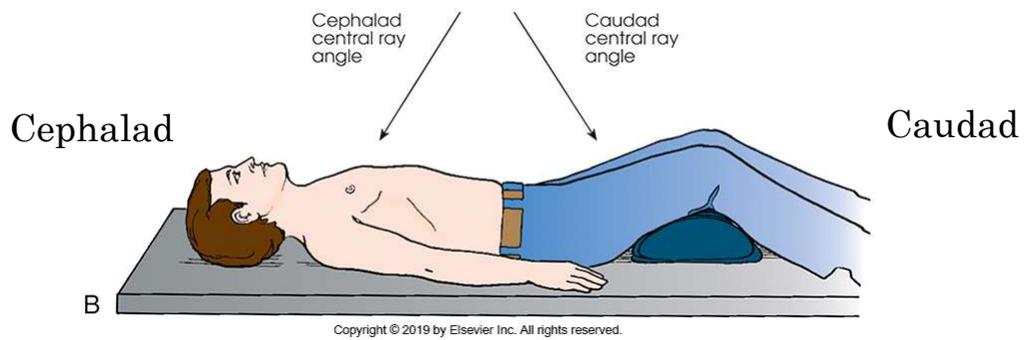
- Anterior (Ventral)
- Posterior (Dorsal)
- Lateral
- Medial
- Superior
- Inferior
- Proximal
- Distal
- Caudad
- Cephalad
- Palmar
- Plantar



2



3

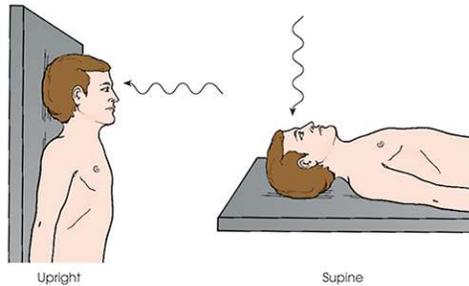


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Positions

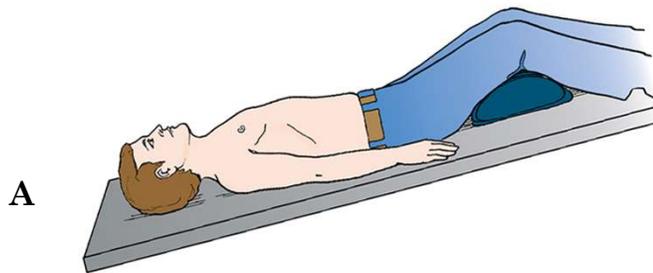
Identification of the overall posture of the patient or the general body position

- Recumbent
- Supine
- Prone
- Erect / Upright
- Trendelenburg

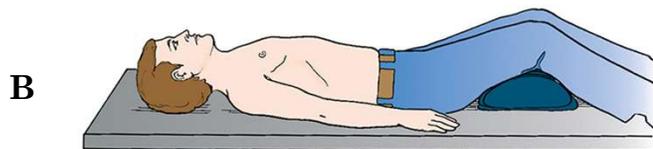


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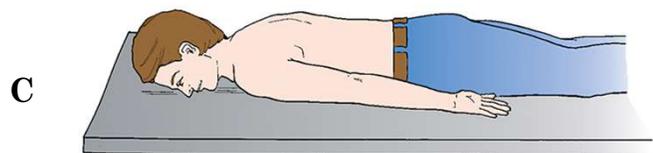
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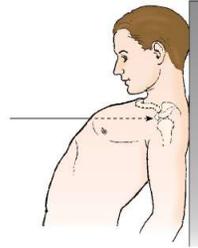
6

Radiographic Body Positions

Placement of the body part in relation to the radiographic table or IR during imaging

- Anterior
- Posterior
- Lordotic

- Lateral
- Decubitus
- Oblique



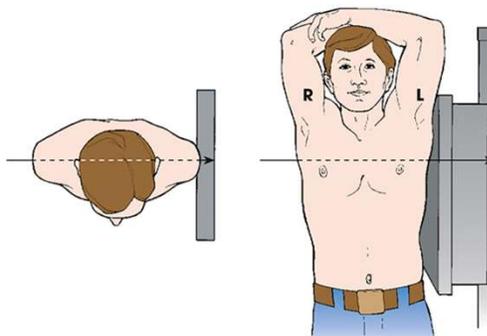
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7

Radiographic Body Positions

- Lateral
 - Further described as a right or left lateral depending on side against the image receptor

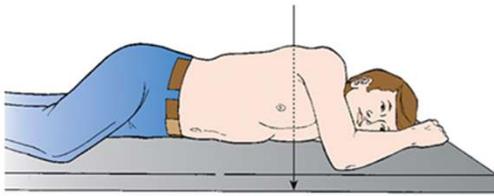
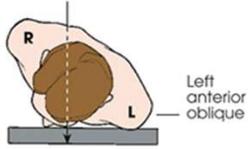
- Oblique
 - Further specified according to patient's relationship to the image receptor.
 - Right Posterior Oblique (RPO)
 - Left Posterior Oblique (LPO)
 - Right Anterior Oblique (RAO)
 - Left Anterior Oblique (LAO)



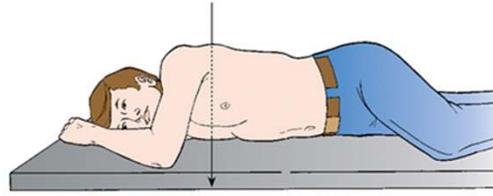
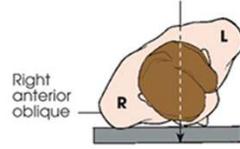
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8

LAO- left anterior oblique

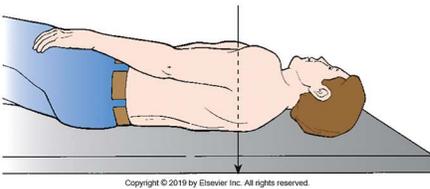
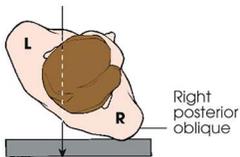


RAO- right anterior oblique

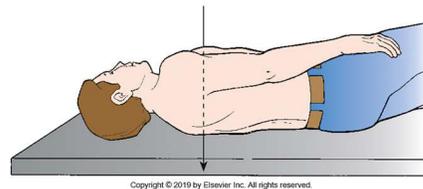
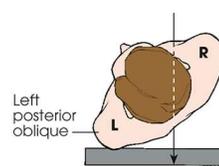


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RPO- right posterior oblique

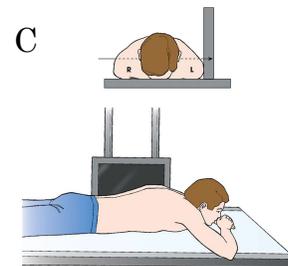
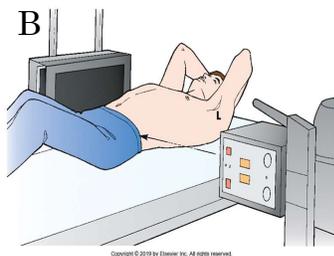
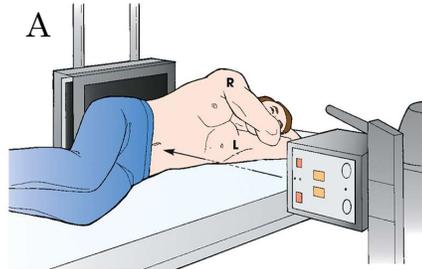


LPO- left posterior oblique



10

Decubitus



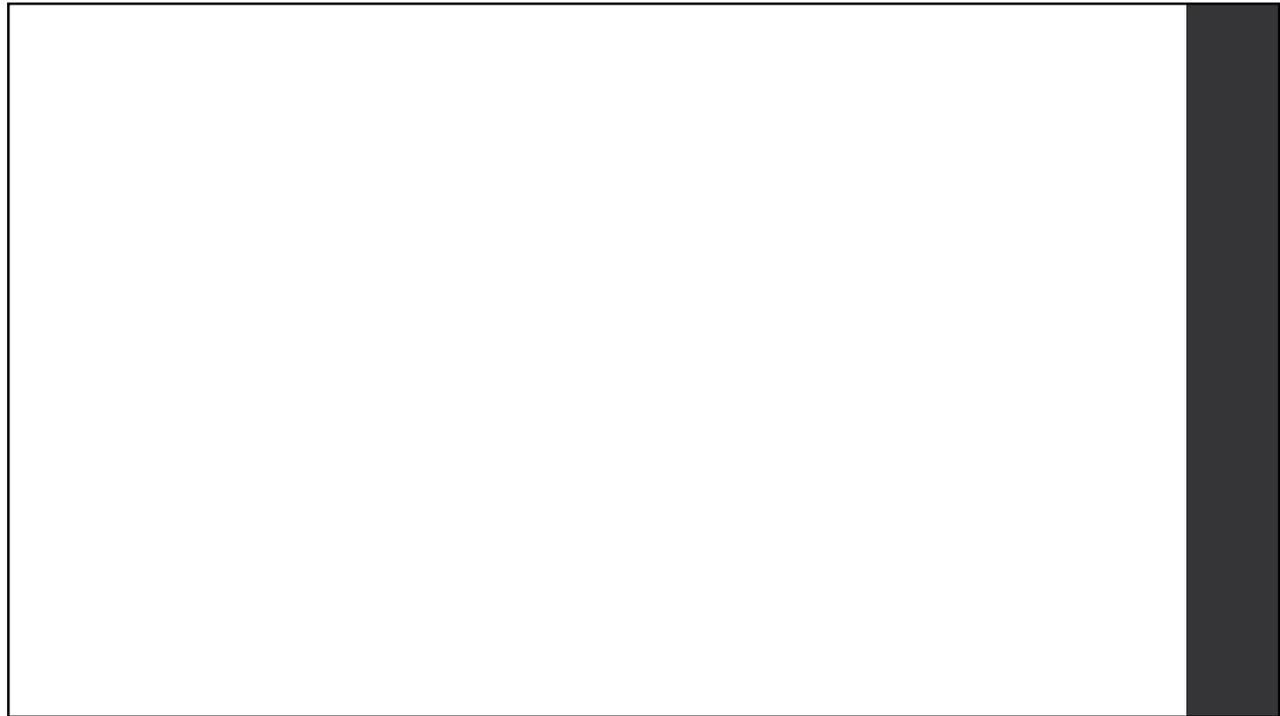
11

Body Movement Terminology

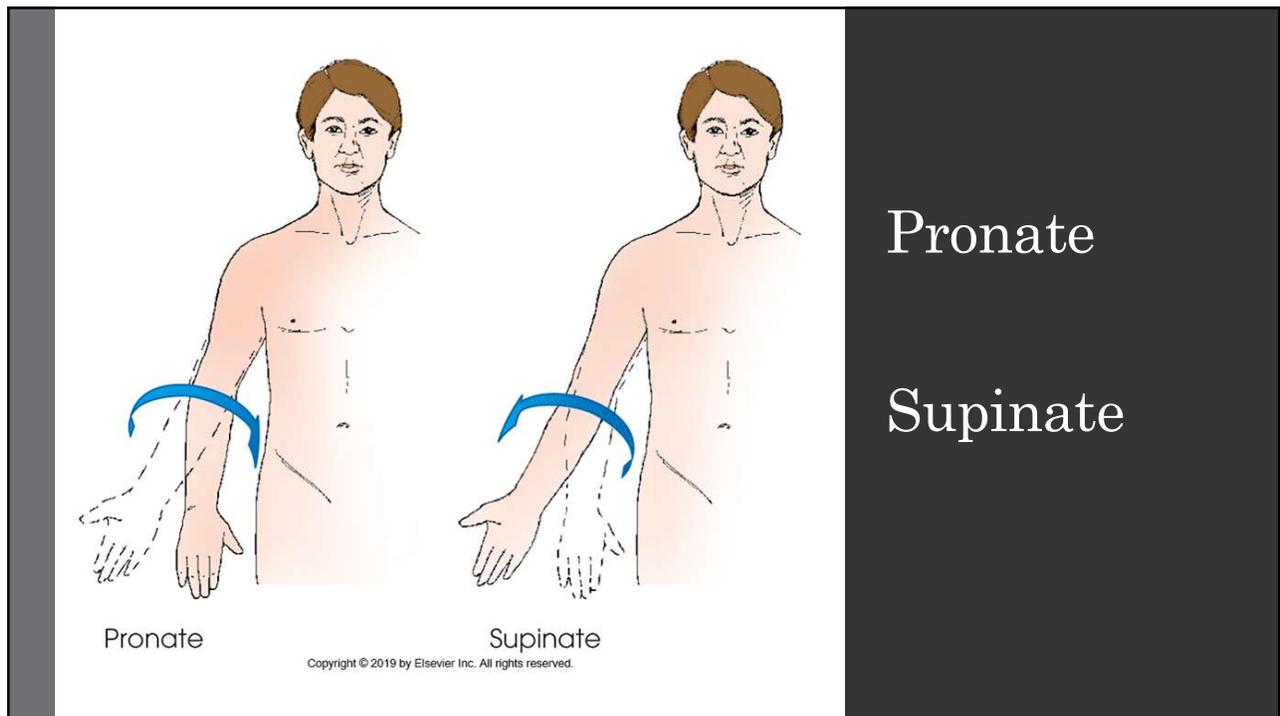
Movement related to limbs used often in positioning description and patient history.

- Supinate
- Pronate
- Abduction
- Adduction
- Eversion
- Inversion
- Extension
- Flexion
- External
- Internal

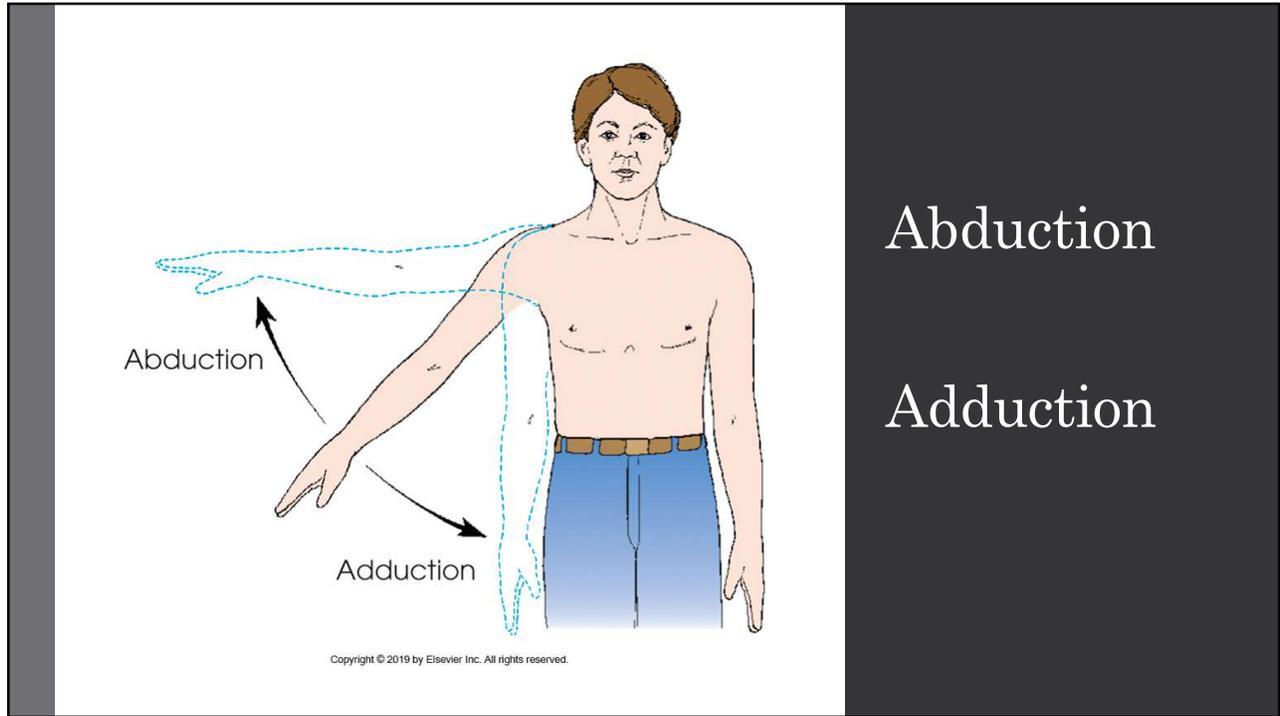
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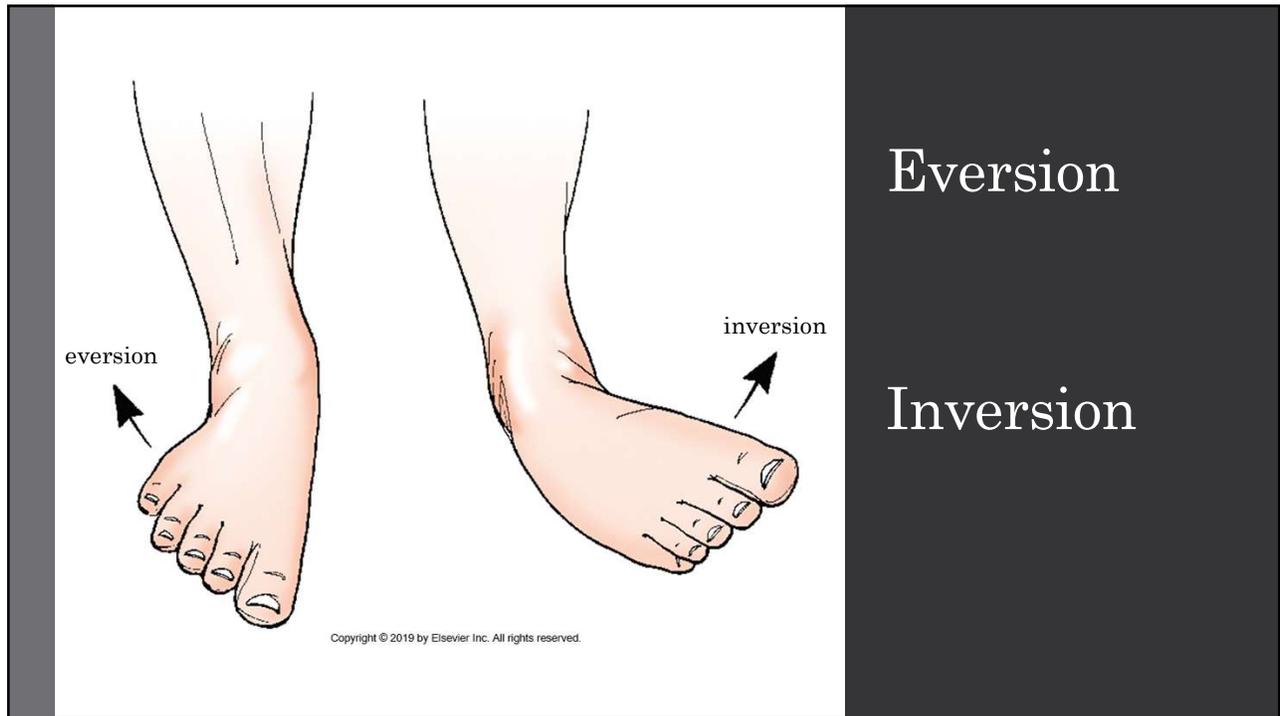
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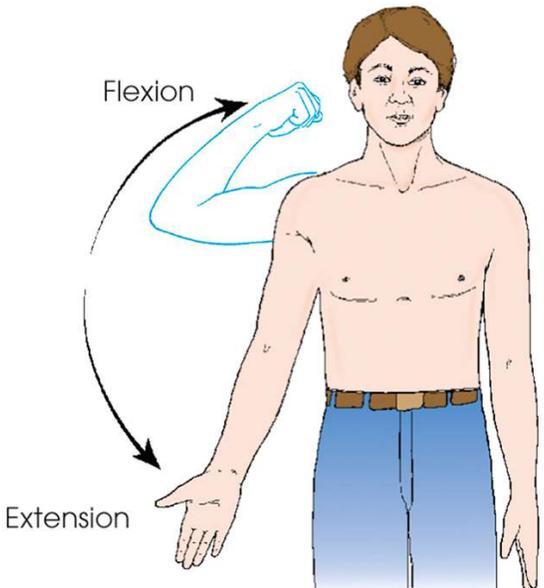
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15



16



A diagram of a male torso showing arm movements. The right arm is bent at the elbow, with the hand near the shoulder, labeled "Flexion". The left arm is straight out to the side, labeled "Extension". A curved arrow indicates the range of motion between these two positions. Below the diagram is the text "Copyright © 2019 by Elsevier Inc. All rights reserved."

Flexion

Extension

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Flexion

Extension

17



Two diagrams, A and B, showing leg rotation. Diagram A shows the right leg rotated inward, with a curved arrow pointing towards the midline, labeled "Internal". Diagram B shows the right leg rotated outward, with a curved arrow pointing away from the midline, labeled "External". Both diagrams include the text "Copyright © 2019 by Elsevier Inc. All rights reserved."

A

Internal

B

External

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Internal

External

18

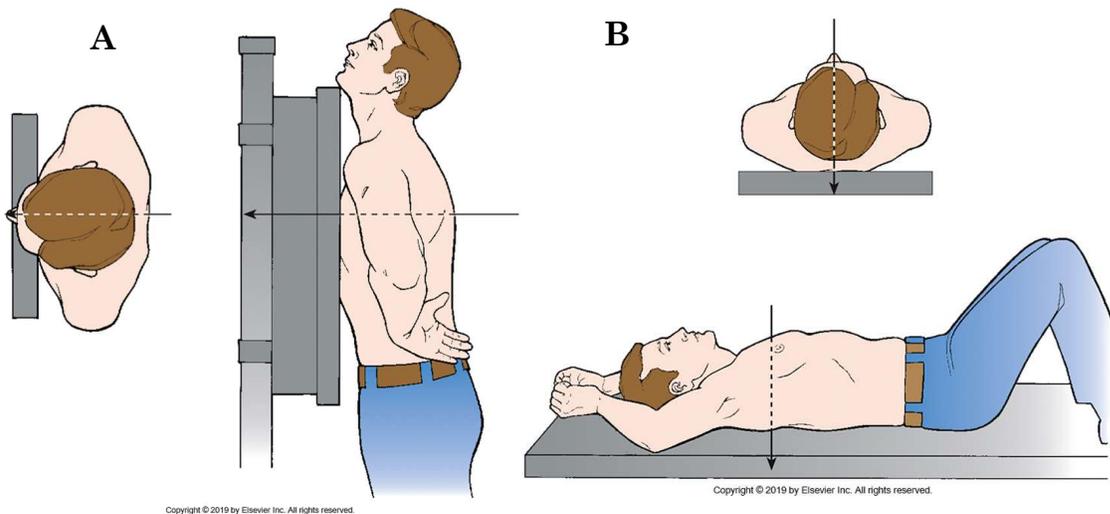
Projection

Described by the **path of the central ray** as it goes through the patient to the IR

- This is based on entrance and exit points in the body and the patient anatomic position
- Regardless of patient position (erect or recumbent)
 - Anteroposterior (AP)
 - Posteroanterior (PA)
 - Lateral Projection
 - Oblique Projection

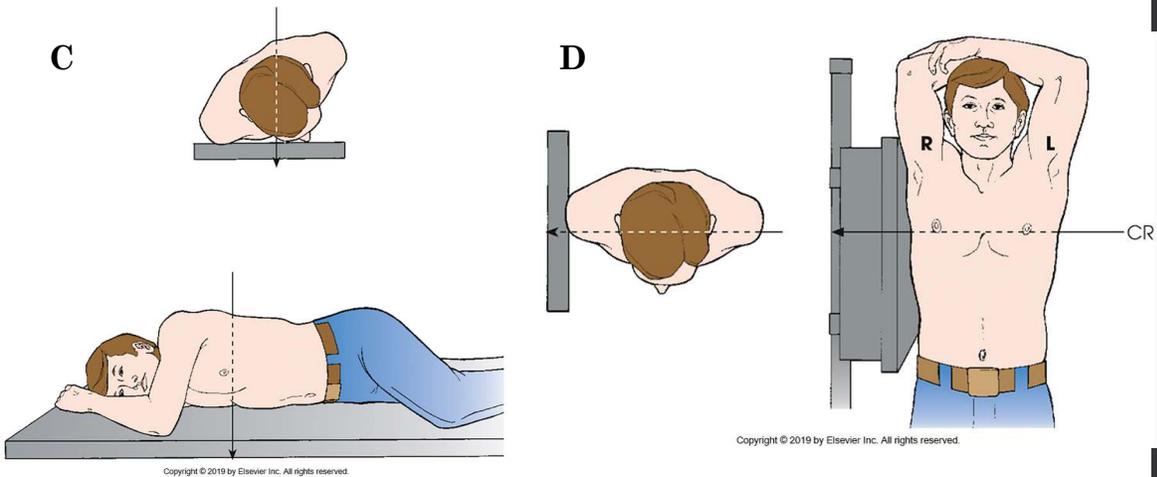
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Projection and Position



20

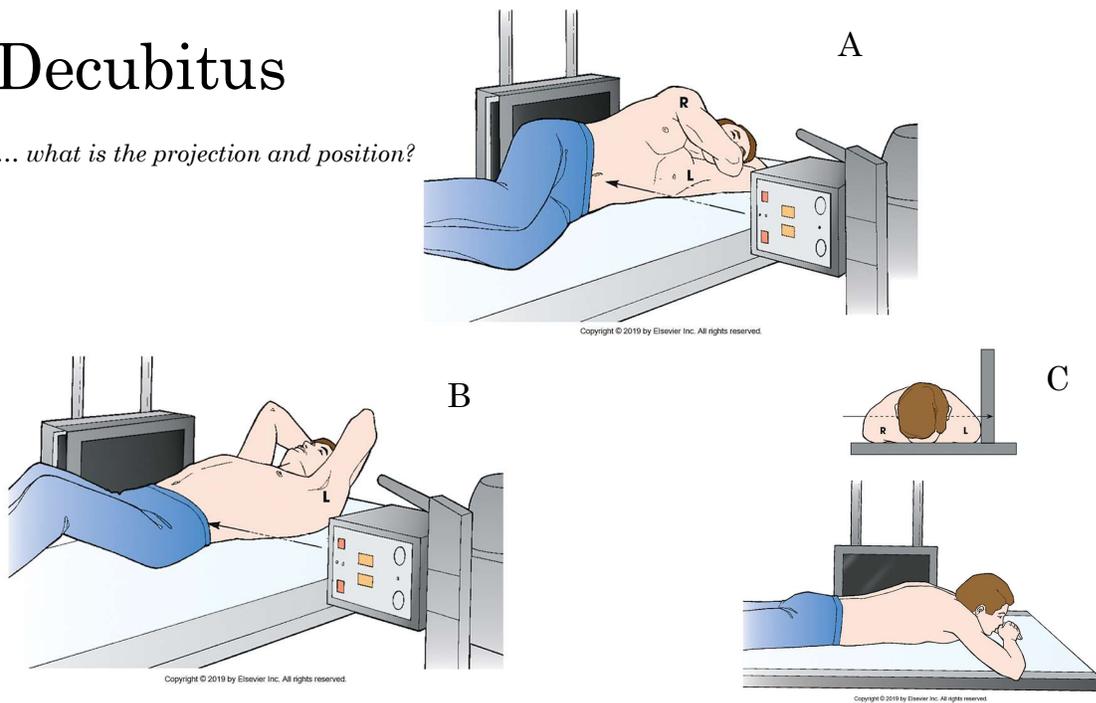
Projection and Position



21

Decubitus

... what is the projection and position?



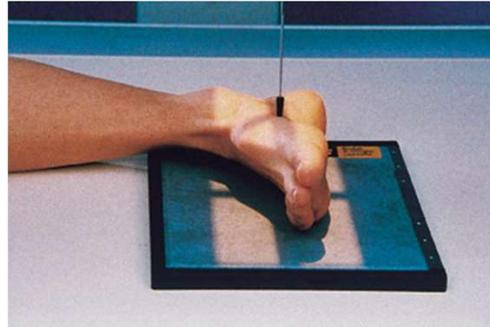
22

Extremities

A



B



23

MI 123: Clinical Seminar I

- ❖ **PROCEDURAL ROUTINE**
- ❖ **DOCUMENTATION/ORDERS**
- ❖ **HISTORY TAKING**
- ❖ **POLICIES:**
 - Patient Valuables
 - "Hand Off" Communication – Hall Pass
 - Imaging Pregnant Patients

24



Steps of a Procedural Routine

25

Types of patients

Private Out (OP) / Outpatient

- Can have a scheduled appointment or be a walk-in
 - Walk in - a patient that does not have an appointment
- Sent in from a physician's office with an order from a physician
- Could result in the need for a Verbal report / Image check

Inpatient

- Nursing Floors
- Intensive Care Units
 - SICU
 - MICU
 - NICU
 - PACU
- Pre-Admission Testing

Emergency Department



26

Procedural
Routine
Pre-
procedure

**Review request/control
sheet**

- **Identify the radiographic procedure requested by the physician**
- **Review the order to evaluate for accuracy**

27



PHYSICIAN ORDER

- A physician orders a certain x-ray for a patient (left hand, right foot, lumbar spine, etc...)
- The physician will:
 - Order the radiographic procedure
 - The order may arrive with the patient (on an order slip/script), be faxed to the facility, or be electronic
 - RH – all radiographic orders expire 14 months after they are prescribed
 - Electronically ordered in EPIC
 - All Inpatients will have orders placed electronically in EPIC

28

Orders

- CPT Code- Current Procedural Terminology (AMA) CHEST PA & LATERAL [71020]
 - Codes that are assigned to every task and service that can be provided to a patient
 - Must be correct for insurance reimbursement/ payments
- ICD-10 Codes- International Statistical Classifications of Diseases
 - Alphanumeric assignments given to diagnosis and symptoms
 - Very detailed and specific

Table 1 – Comparisons of the Diagnosis Code Sets

ICD-9	ICD-10
3-5 characters in length	3-7 characters in length
Approximately 13,000 codes	Approximately 68,000 available codes
First digit may be alpha (E or V) or numeric; digits 2-5 are numeric	Digit 1 is alpha; digits 2 and 3 are numeric; digits 4-7 are alpha or numeric
Limited space for adding new codes	Flexible for adding new codes
Lacks detail	Very specific
Lacks laterality	Has laterality (i.e., codes identifying right vs. left)

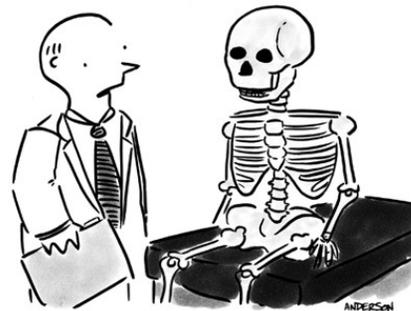
29

Requests

- A paper in which lists:
 - patient name, address, MRN, ordering doctor and phone number, study, codes for charging, numbers to track study in computer (accession number), list of most recent studies performed, etc...
 - Control sheet
 - Requisition
- Can be entered by clerical staff
 - Intake specialist
 - Unit clerks
- Always check the procedure on the request to the physician order to verify procedure
 - If there is a discrepancy, the physician's order is the correct of the two

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"Still, let's do an x-ray just to be sure."

30

Control Sheet vs Request

Reading Hospital
Department of Radiology Diagnostic Order Request

ACCESSION #: 12345678

MRN: 486223

Fox, Hannah

DOB: 8/2/1989, 31 year-old Female
ALLERGIES: Not on File
HEIGHT:
WEIGHT:
ROOM/REQ: O2:
METHOD OF TRANSPORT: ISOLATION:
ACCOUNT: 13000993032
CIN: 30002657465
Primary Insurance: IGA-INDEPENDENCE AETNA
Secondary Insurance:
THIS IS NOT YOUR IMAGING ORDER. YOU MUST VERIFY THE PROCEDURE ORDER IN THE ELECTRONIC MEDICAL RECORD.

PROCEDURE:
XR Nasal Bones Routine

PRIORITY: Routine
DIAGNOSIS: Nasal bone pain [882.2 (ICD-10-CM)]
REASON FOR EXAM: Injury
COMMENTS:
PREVIOUS EXAM: XR Foot
ORDERING MD: Jacob S Good
AUTHORIZING MD: Jacob S Good
PCP MD: Physician, No
Other Exams for Today:

RHSIS Medical Imaging Program
Skills Lab

Order Requisition

Name	MSN	DOB	Sex	Unit	Room/Bed	HAB
Boyer, Kyle	1234568	10/9/1977 (43)	F	EO	COS-005	10000123457

XR Cervical Spine 1 View (Order #: 48276167)

Order Information

Order Date	Service	Start Date	Start Time	End Date
12/8/2020	Emergency Medicine	12/8/2020	0730	12/8/2020

Order Details

Frequency	Duration	Priority	Order Class
1 time imaging	1 occurrence	STAT	Ancillary Performed

Order Questions

Question	Answer	Comments
R/O	03 Fracture/subluxation	Keep pt supine until cleared

Sign Symptom: 03 Pain
Note: the selection of "Other" requires further explanation in the Additional Comments section

Order Provider Info

	Office Phone	Pager/beeper	Email
Ordering User: Frank B Moyes, DO	484-628-3637	--	--
Authorizing Provider: Frank B Moyes, DO	484-628-3637	--	--
Attending Provider: Frank B Moyes, DO	484-628-3637	--	--

RHSIS Medical Imaging Program
Skills Lab

31

Children's Clinic of Wyomissing
2240 Ridgewood Rd, Ste 100
Wyomissing, PA 19610-1286

Phone: 610-376-8691
Fax: 610-376-8745

Ordered By: Salvatore Anzalone, MD
Physician ID: NPID: 1871591180

Date: 02/15/2013
Patient Name: Sex: M
Birthdate: 12/03/1995 Patient ID: 123456
Address: Day Tel:
Home Tel:

Insurance: PA BLUE SHIELD Guarantor DOB:
Insured ID: OPB104378160001 Group #: 02536400
Guarantor: Rel to Guar: CHILD

Requisition: Outside Lab
Requisition ID:
Diagnostic Codes:
786.5 CHEST PAIN
CHEST PA & LATERAL [71020]

Salvatore Anzalone

STAT: Fasting: printed 02/15/2013 9:38:24 AM
Call Report: 610-376-8691

Example:
**Outpatient/Written
order= Transcribed**

32

CT Abd / Pelvis W Contrast (Order 88388120)

CT ABD / PELVIS W CONTRAST [88388120]

Electronically signed by: **Finn Adamite, MD on 05/06/19 1156**
 This order may be acted on in another encounter.
 Ordering user: Finn Adamite, MD 05/06/19 1156 Ordering provider: Finn Adamite, MD
 Authorized by: Finn Adamite, MD Ordering mode: Standard

Status: Active

Questionnaire

Question	Answer
Is a verbal report needed?	No

Order details

Screening Form

General Information

Patient Name: Kix, Jill	MRN: 3018053
Date of Birth: 9/4/1990	Home Phone: 111-111-1111
Legal Sex: Female	

Procedure	Ordering Provider	Authorizing Provider	Appointment Information
CT ABD / PELVIS W CONTRAST	Finn Adamite, MD	Finn Adamite, MD	5/6/2019 3:30 PM RAD CT A RH RAD CT

Screening Form Questions

No questions have been answered for this form.

*Example: EPIC
Inpatient Order*

Reason for Exam

Abd pain, appendicitis suspected

Priority: Routine

Diagnosis

Rheumatoid osteoperiostitis

Codes

ICD-10-CM: M86.9

ICD-9-CM: 730.20

Comments

33

Military Time

- Military time is based off a 24-hour clock
- Some healthcare facilities utilize military time in documentation



24-Hour Clock (Military Time) Conversion Chart

TIME	24-HOUR TIME	TIME	24-HOUR TIME
12:01 AM	0001	12:01 PM	1201
12:05 AM	0005	12:05 PM	1205
12:30 AM	0030	12:30 PM	1230
12:45 AM	0045	12:45 PM	1245
1:00 AM	0100	1:00 PM	1300
2:00 AM	0200	2:00 PM	1400
3:00 AM	0300	3:00 PM	1500
4:00 AM	0400	4:00 PM	1600
5:00 AM	0500	5:00 PM	1700
6:00 AM	0600	6:00 PM	1800
7:00 AM	0700	7:00 PM	1900
8:00 AM	0800	8:00 PM	2000
9:00 AM	0900	9:00 PM	2100
10:00 AM	1000	10:00 PM	2200
11:00 AM	1100	11:00 PM	2300
12:00 NOON	1200	12:00 MIDNIGHT	2400

34

Procedural Routine Pre-Procedure

Equipment preparation

- Radiographic room is prepared, with necessary supplies in place before the patient arrives in the room (Sheet is placed on the table, shield, sponges, etc.)
- X-Ray tube in position with applicable equipment readily available

Operating console preparation:

- Verify correct selection of patient name/MRN/accession #
- Enter HS# if applicable
- Select proper study/view within the operation console
- Select and verify appropriate kVp, mA and time/mAs, and ionization chambers (as necessary)

35

Procedural Routine Pre-Procedure

Retrieve patient from waiting area

- Introduce self
- Verify patient ID
- Address footwear and question pain meds/stability if applicable

The patient is properly gowned with all unnecessary/interfering clothing, jewelry, dentures, etc. removed

36

Procedural Routine Procedure

- **Escort the patient safely into the room** – Evaluation of medication/footwear, Patient Valuables (Review policy); Hand-Off Communication (Review policy)
- **Introduce yourself to the patient as a student as well as introduction of your technologist/Faculty**
 - Permission to participate in study
- **Re-confirm patient identification** – 2 patient identifiers



37

Procedural Routine Procedure

- **Obtain LMP/Pregnancy Status** – (Review policy)
 - Imaging Pregnant Patient Policy
 - Why? Importance?
 - 8-55 years of age
 - 2-part question
 - **First** day of last menstrual period/cycle?
 - Assess for chance of pregnancy – “Is there any chance of pregnancy?”



38

Obtain History

Sacred Seven

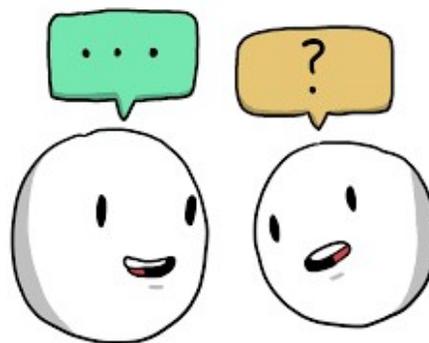


39

Effective Histories

- Open ended questions
- Probing question to focus on details
- Encourage elaboration
- Give the patient time to collect their thoughts
- Repetition or rewording
- Summarize to verify history

*Includes subjective (perceived) and objective (signs seen) data



40

Procedural Routine Procedure

- **Procedure explained to the patient**
- **Take precautionary measures to ensure patient safety** - application of brakes, footwear
- **Radiation protection practices applied** – appropriate gonadal shielding based on path of central ray
- **Assistance provided to patient during positioning**
- **Collimation appropriate for view**
- **Correctly manipulate equipment to obtain designated centering/projection**
- **Communicate breathing or movement instructions**



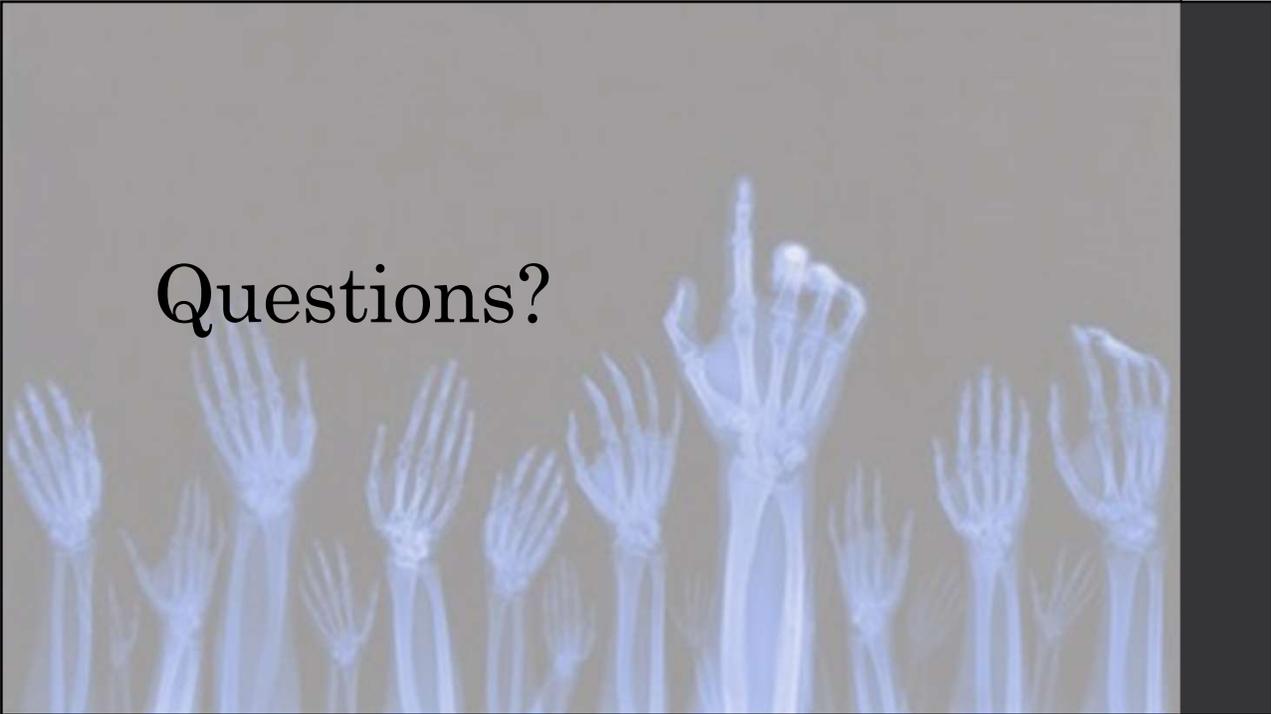
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Procedural Routine Post-Procedure

- **Correctly dismiss patient from procedure**
 - Verbal Report/Image Check
- **Verify images sent to PACS with technologist approval**
- **Complete EPIC documentation**



42



43

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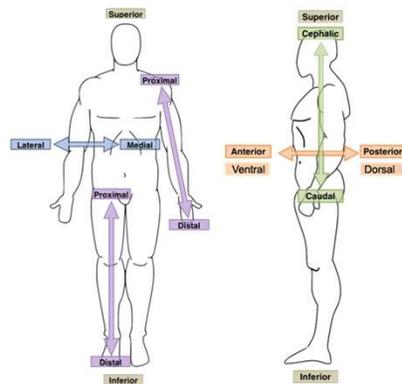
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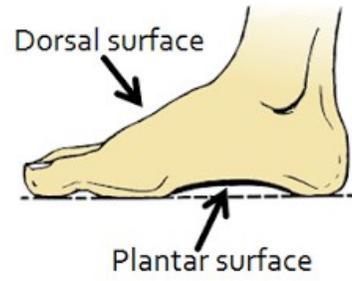
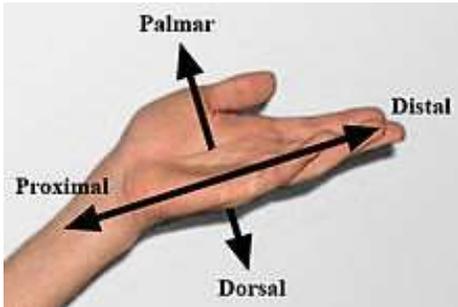
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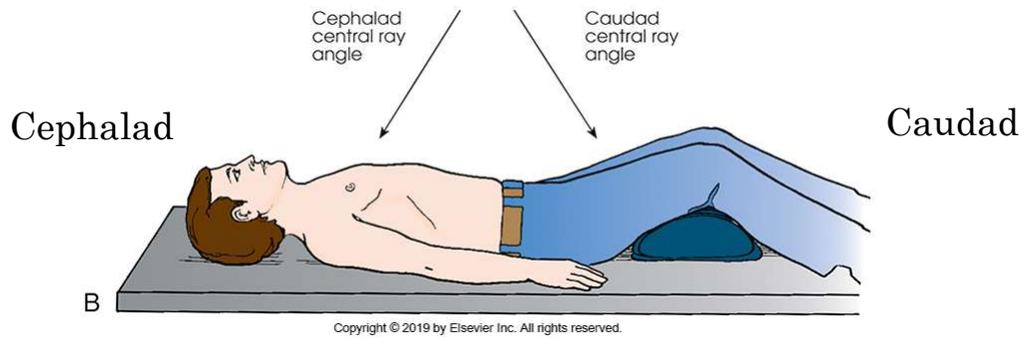
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- Distal
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- Cephalad
- Palmar
- Plantar



2



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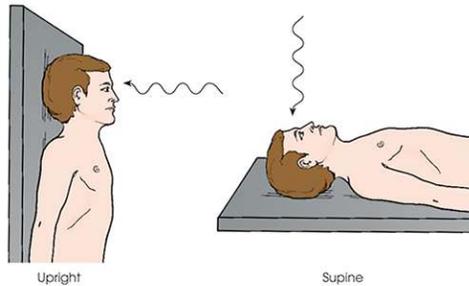


4

Positions

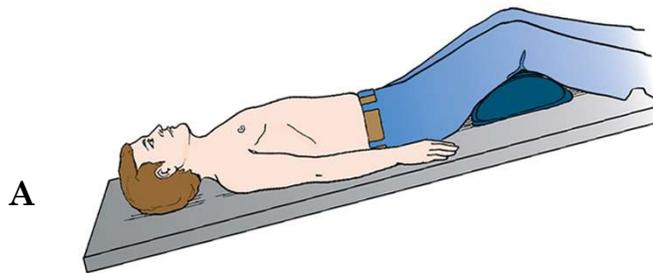
Identification of the overall posture of the patient or the general body position

- Recumbent
- Supine
- Prone
- Erect / Upright
- Trendelenburg

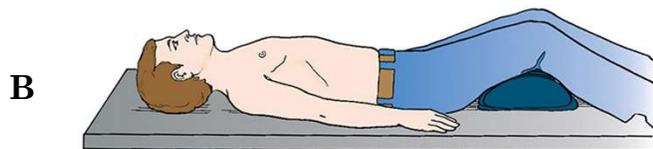


Supine
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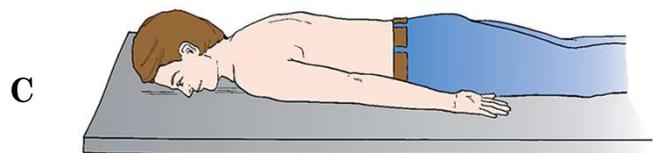
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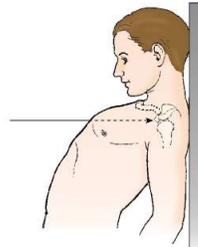
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Radiographic Body Positions

Placement of the body part in relation to the radiographic table or IR during imaging

- Anterior
- Posterior
- Lordotic

- Lateral
- Decubitus
- Oblique



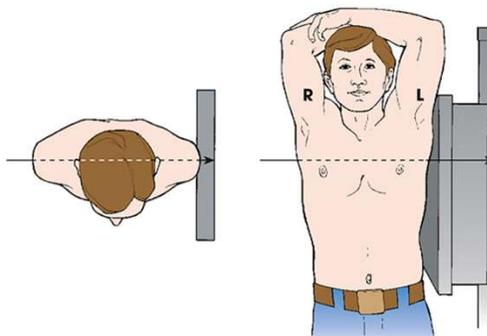
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7

Radiographic Body Positions

- Lateral
 - Further described as a right or left lateral depending on side against the image receptor

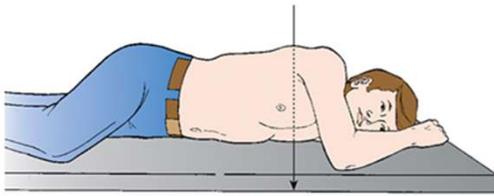
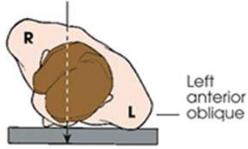
- Oblique
 - Further specified according to patient's relationship to the image receptor.
 - Right Posterior Oblique (RPO)
 - Left Posterior Oblique (LPO)
 - Right Anterior Oblique (RAO)
 - Left Anterior Oblique (LAO)



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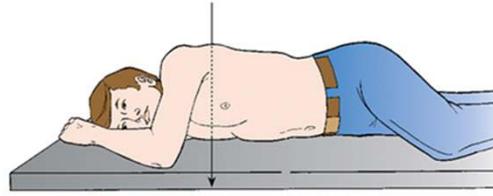
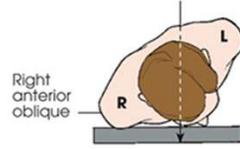
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LAO- left anterior oblique



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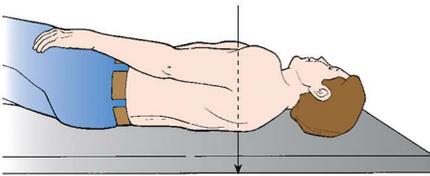
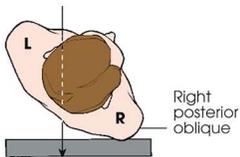
RAO- right anterior oblique



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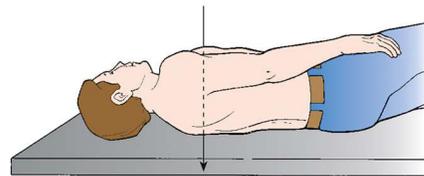
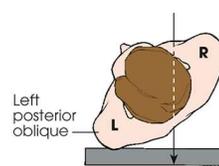
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RPO- right posterior oblique



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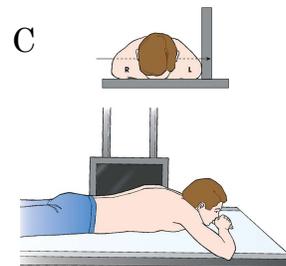
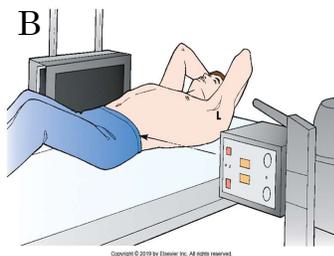
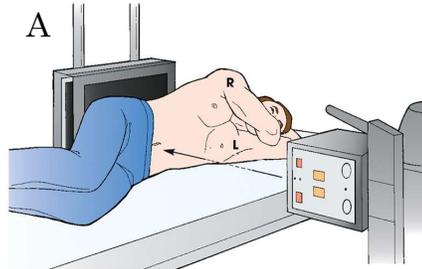
LPO- left posterior oblique



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10

Decubitus



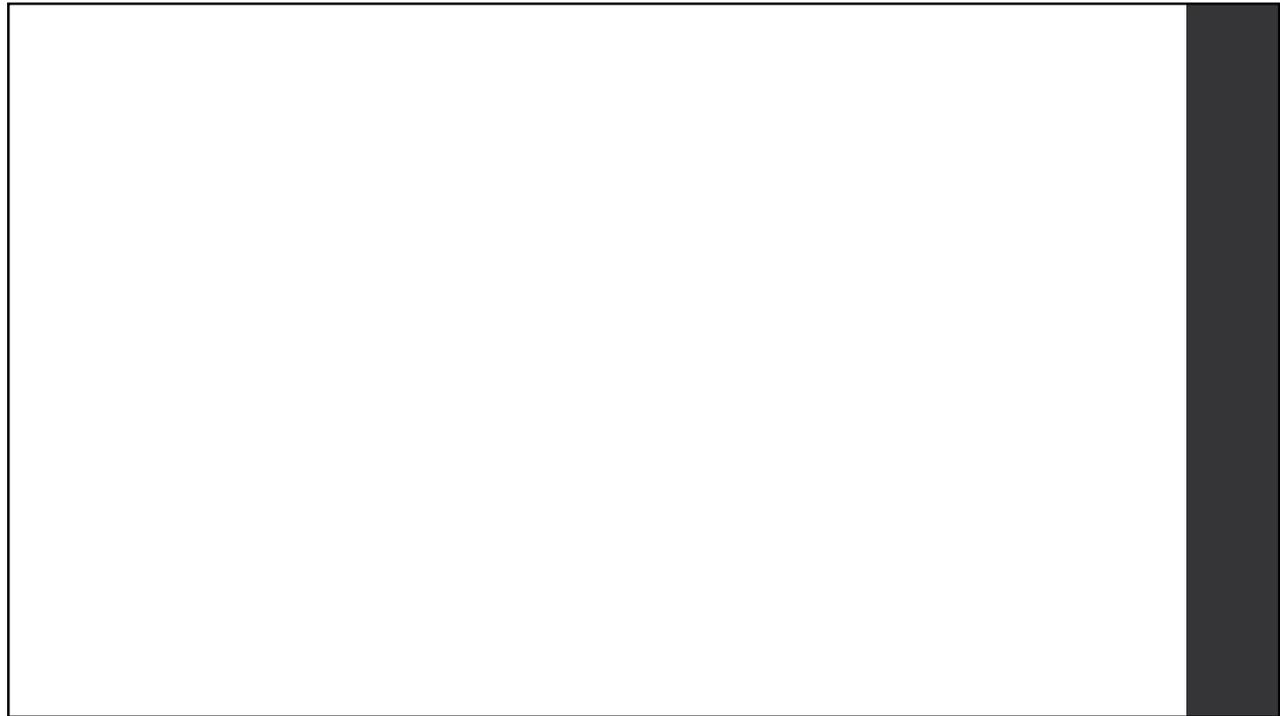
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Body Movement Terminology

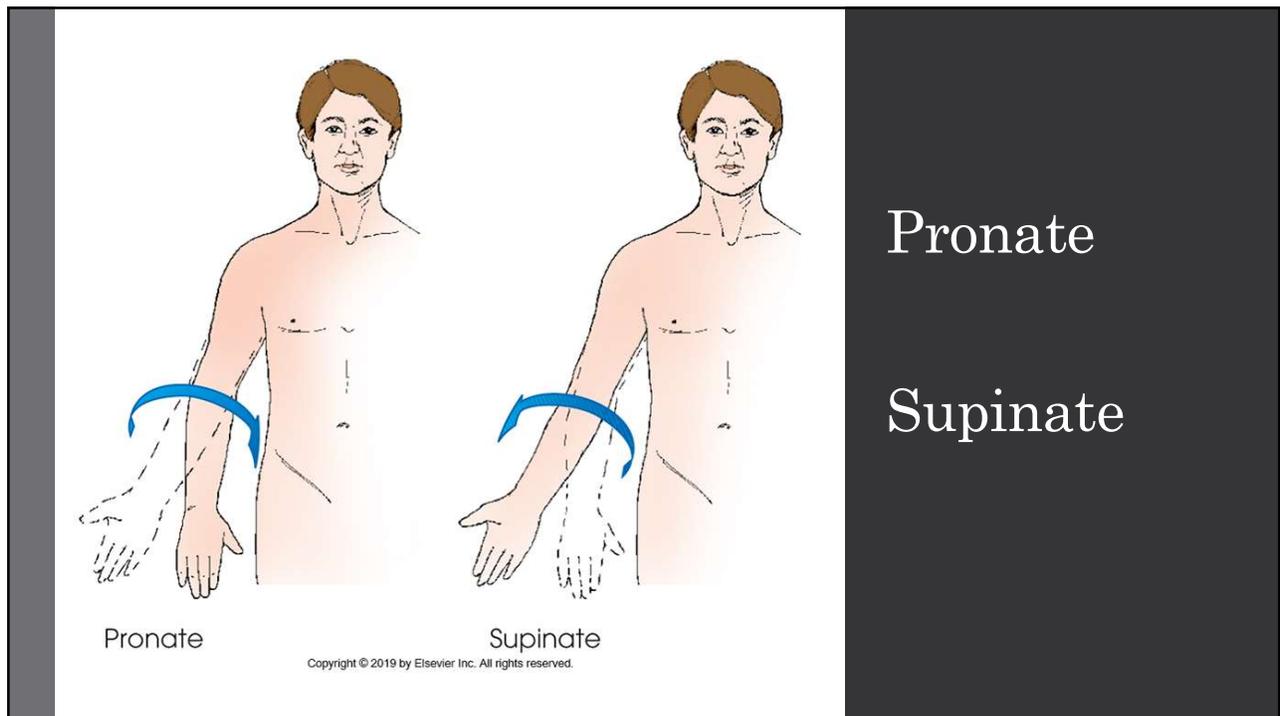
Movement related to limbs used often in positioning description and patient history.

- Supinate
- Pronate
- Abduction
- Adduction
- Eversion
- Inversion
- Extension
- Flexion
- External
- Internal

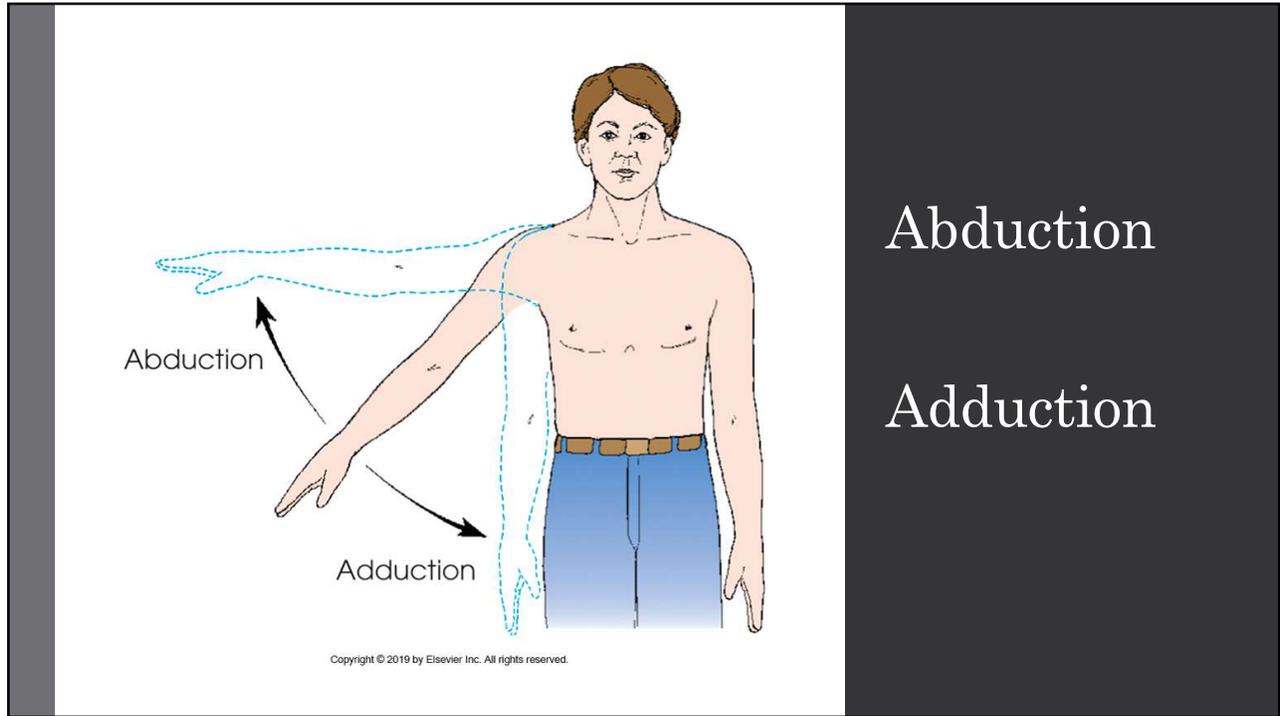
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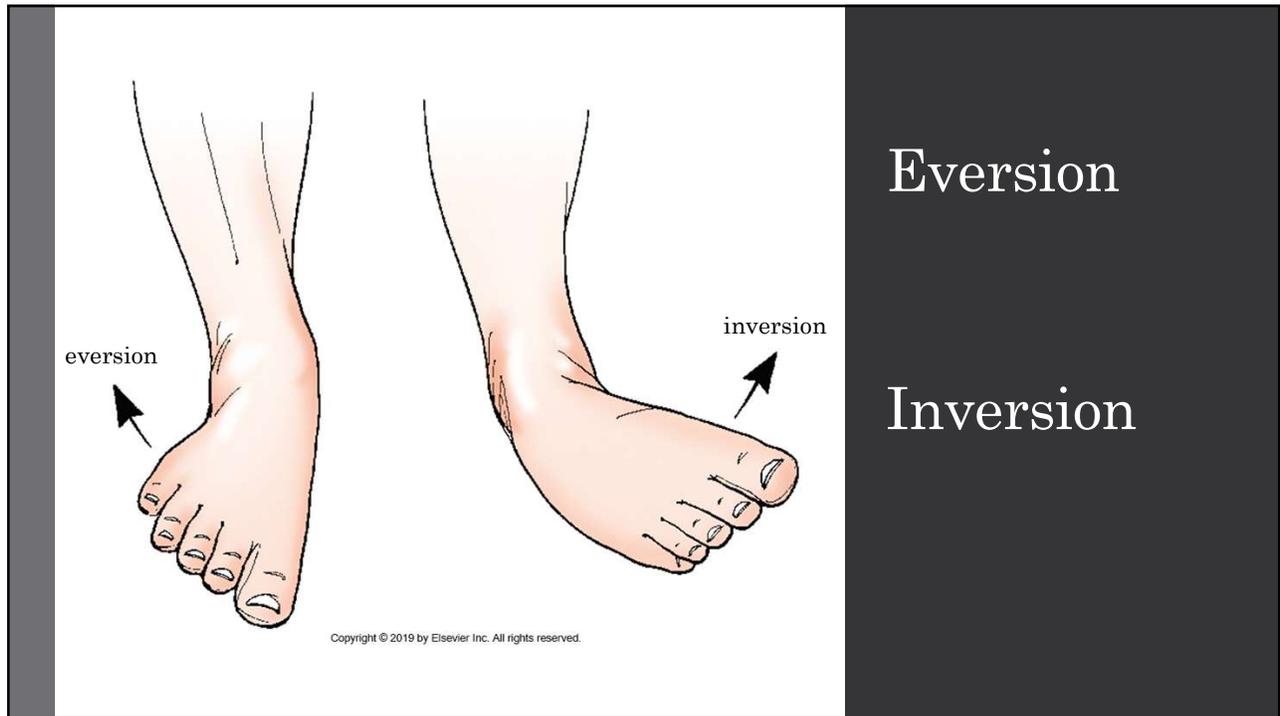
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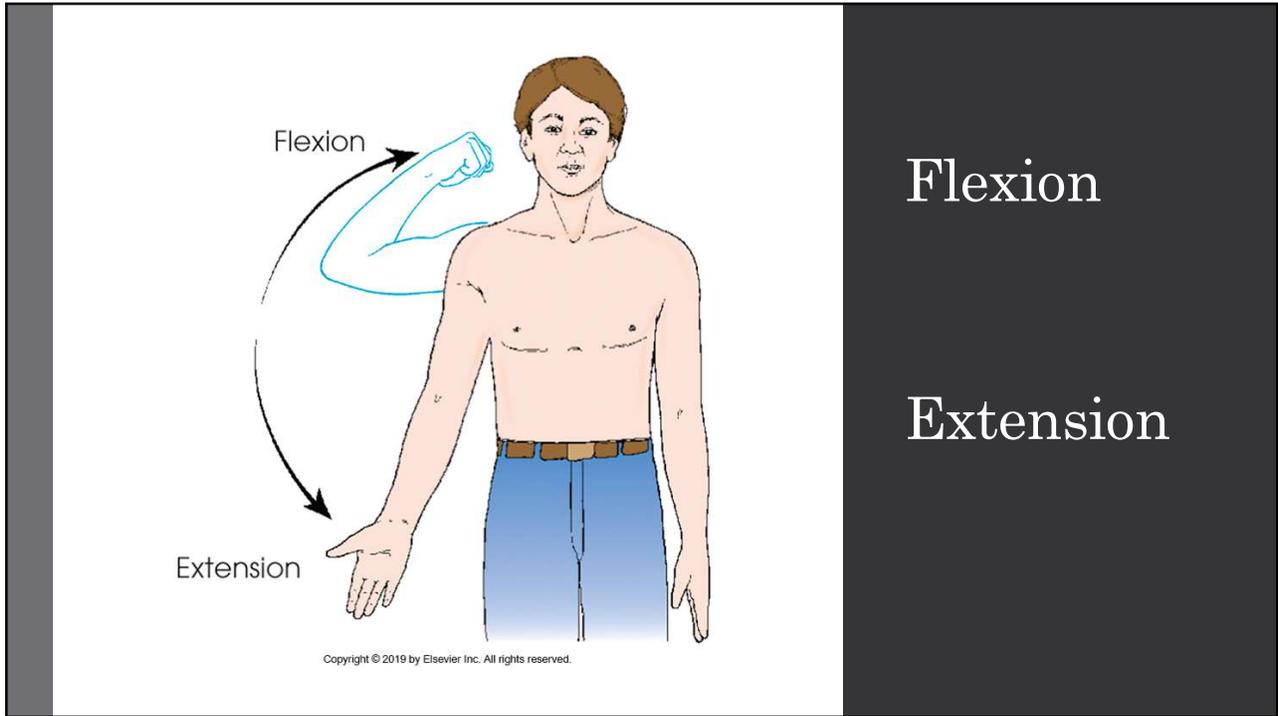
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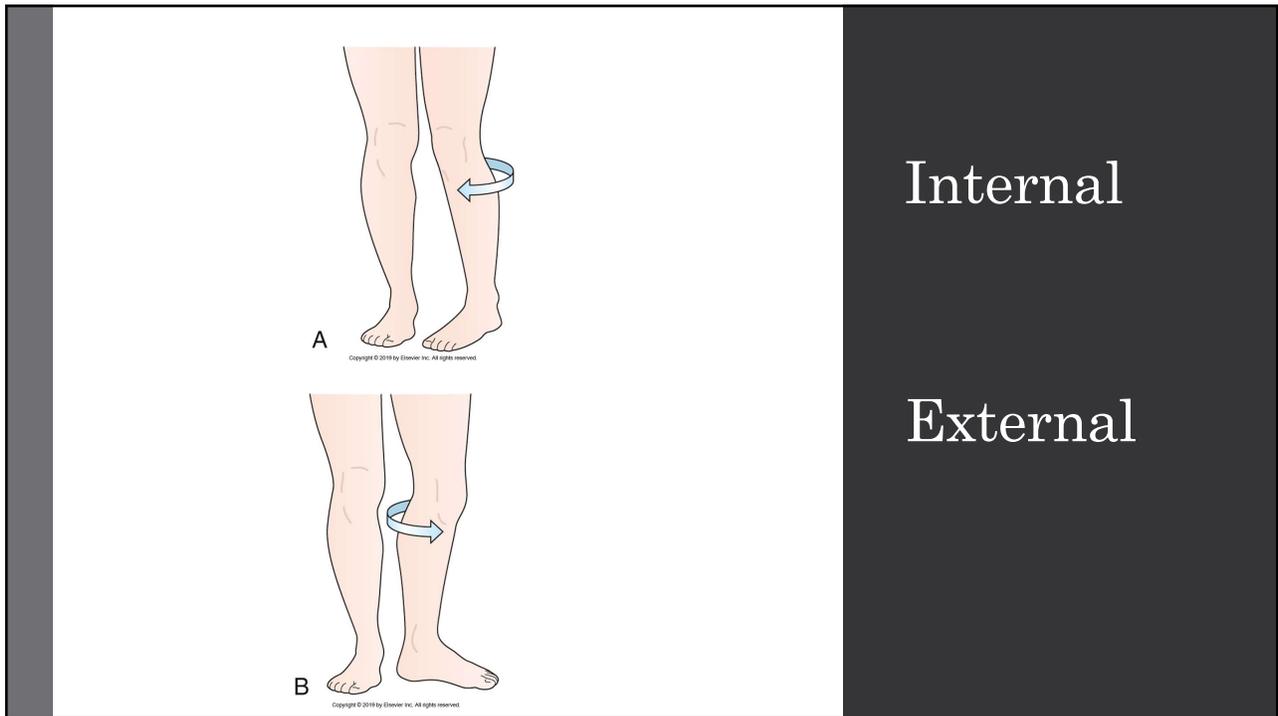
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Flexion

Extension

17



Internal

External

18

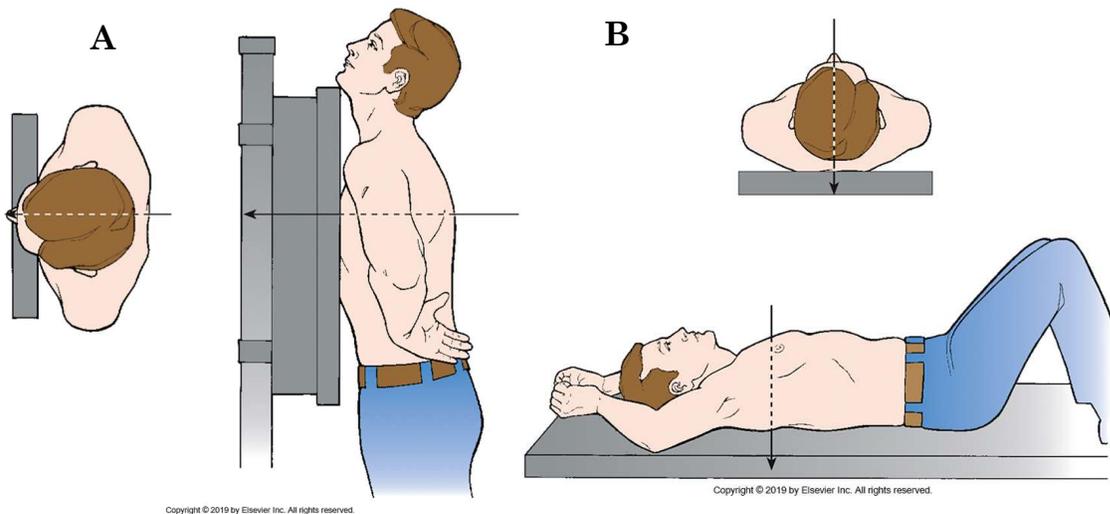
Projection

Described by the **path of the central ray** as it goes through the patient to the IR

- This is based on entrance and exit points in the body and the patient anatomic position
- Regardless of patient position (erect or recumbent)
 - Anteroposterior (AP)
 - Posteroanterior (PA)
 - Lateral Projection
 - Oblique Projection

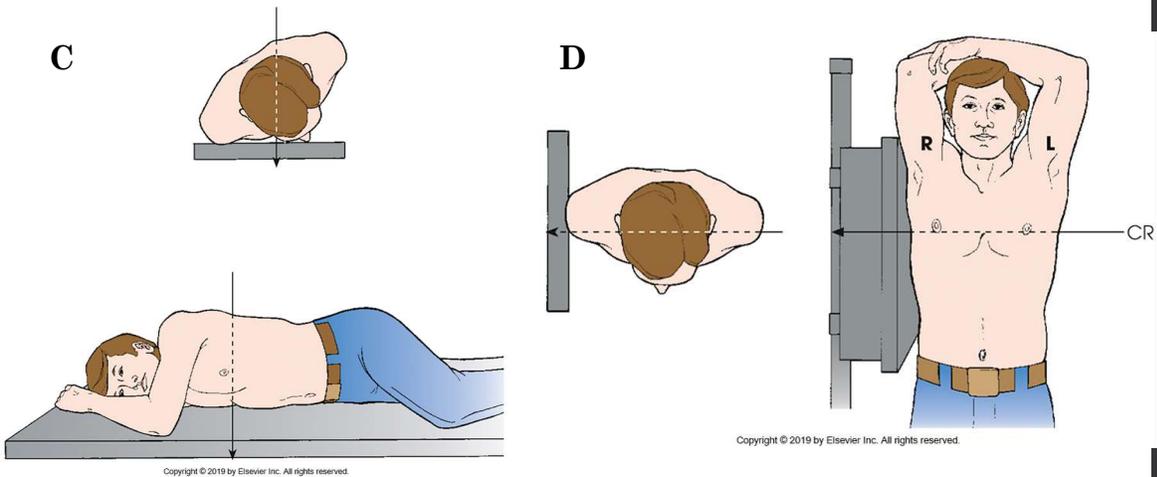
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Projection and Position



20

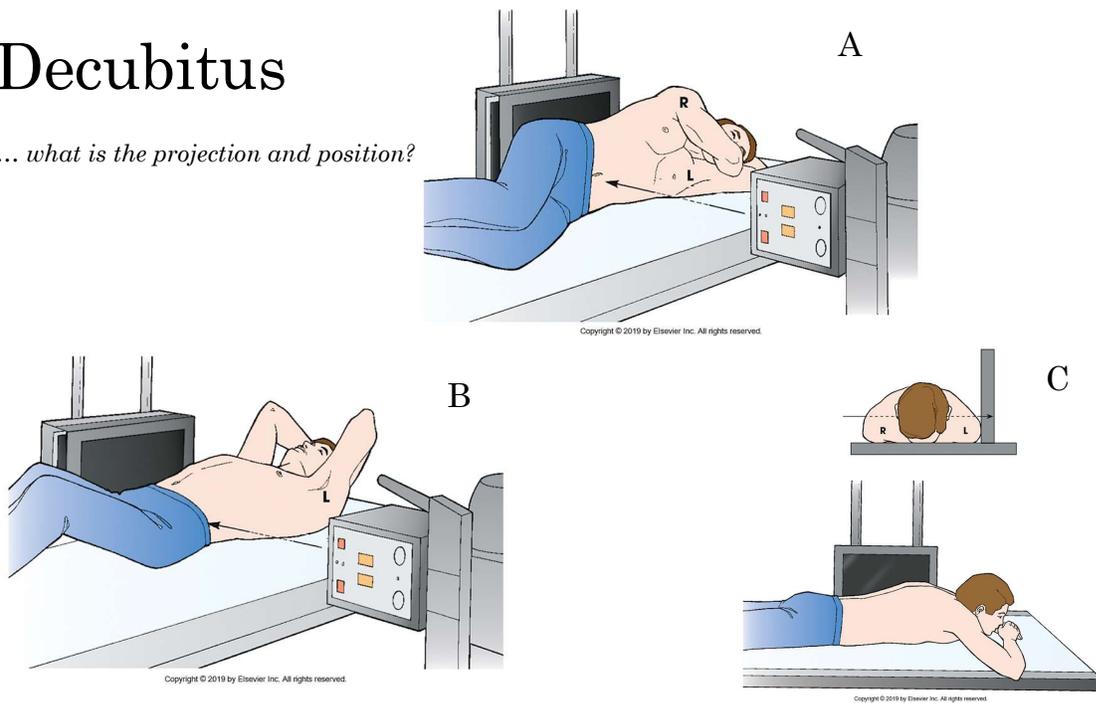
Projection and Position



21

Decubitus

... what is the projection and position?



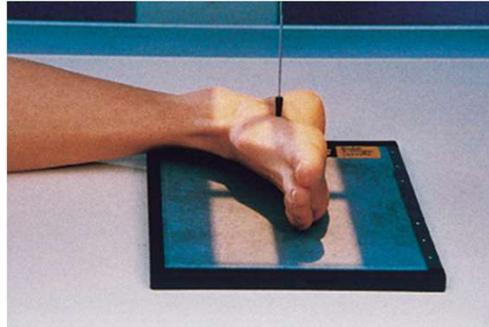
22

Extremities

A



B



23

MI 123: Clinical Seminar I

- ❖ **PROCEDURAL ROUTINE**
- ❖ **DOCUMENTATION/ORDERS**
- ❖ **HISTORY TAKING**
- ❖ **POLICIES:**
 - Patient Valuables
 - "Hand Off" Communication – Hall Pass
 - Imaging Pregnant Patients

24



Steps of a Procedural Routine

25

Types of patients

Private Out (OP) / Outpatient

- Can have a scheduled appointment or be a walk-in
 - Walk in - a patient that does not have an appointment
- Sent in from a physician's office with an order from a physician
- Could result in the need for a Verbal report / Image check

Inpatient

- Nursing Floors
- Intensive Care Units
 - SICU
 - MICU
 - NICU
 - PACU
- Pre-Admission Testing

Emergency Department



26

Procedural
Routine
Pre-
procedure

Review request/control sheet

- **Identify the radiographic procedure requested by the physician**
- **Review the order to evaluate for accuracy**

27



PHYSICIAN ORDER

- A physician orders a certain x-ray for a patient (left hand, right foot, lumbar spine, etc...)
- The physician will:
 - Order the radiographic procedure
 - The order may arrive with the patient (on an order slip/script), be faxed to the facility, or be electronic
 - RH – all radiographic orders expire 14 months after they are prescribed
 - Electronically ordered in EPIC
 - All Inpatients will have orders placed electronically in EPIC

28

Orders

- CPT Code- Current Procedural Terminology (AMA) CHEST PA & LATERAL [71020]
 - Codes that are assigned to every task and service that can be provided to a patient
 - Must be correct for insurance reimbursement/ payments
- ICD-10 Codes- International Statistical Classifications of Diseases
 - Alphanumeric assignments given to diagnosis and symptoms
 - Very detailed and specific

Table 1 – Comparisons of the Diagnosis Code Sets

ICD-9	ICD-10
3-5 characters in length	3-7 characters in length
Approximately 13,000 codes	Approximately 68,000 available codes
First digit may be alpha (E or V) or numeric; digits 2-5 are numeric	Digit 1 is alpha; digits 2 and 3 are numeric; digits 4-7 are alpha or numeric
Limited space for adding new codes	Flexible for adding new codes
Lacks detail	Very specific
Lacks laterality	Has laterality (i.e., codes identifying right vs. left)

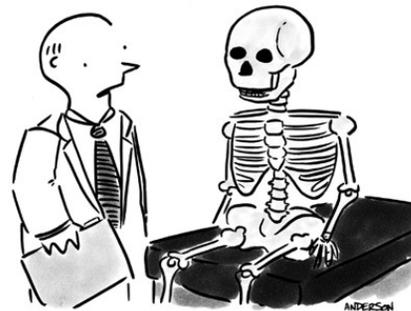
29

Requests

- A paper in which lists:
 - patient name, address, MRN, ordering doctor and phone number, study, codes for charging, numbers to track study in computer (accession number), list of most recent studies performed, etc...
 - Control sheet
 - Requisition
- Can be entered by clerical staff
 - Intake specialist
 - Unit clerks
- Always check the procedure on the request to the physician order to verify procedure
 - If there is a discrepancy, the physician's order is the correct of the two

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"Still, let's do an x-ray just to be sure."

30

Control Sheet vs Request

Reading Hospital
Department of Radiology Diagnostic Order Request

ACCESSION #: 12345678

MRN: 486223

Fox, Hannah

DOB: 8/2/1989, 31 year-old Female
ALLERGIES: Not on File
HEIGHT:
WEIGHT:
ROOM/REG: O2:
METHOD OF TRANSPORT: ISOLATION:
ACCOUNT: 13000993032
CIN: 30002657465
Primary Insurance: IGA-INDEPENDENCE AETNA
Secondary Insurance:
THIS IS NOT YOUR IMAGING ORDER. YOU MUST VERIFY THE PROCEDURE ORDER IN THE ELECTRONIC MEDICAL RECORD.

PROCEDURE:
XR Nasal Bones Routine

PRIORITY: Routine
DIAGNOSIS: Nasal bone pain [882.2 (ICD-10-CM)]
REASON FOR EXAM: Injury
COMMENTS:
PREVIOUS EXAM: XR Foot
ORDERING MD: Jacob S Good
AUTHORIZING MD: Jacob S Good
PCP MD: Physician, No
Other Exams for Today:

RHSIS Medical Imaging Program
Skills Lab

Order Requisition

Name	MRN	DOB	Sex	Unit	Room/Bed	NAB
Boyer, Kyle	1234568	10/01/1977 (43)	F	EO	COS-005	1000002123457

XR Cervical Spine 1 View (Order #: 48276167)

Order Information

Order Date	Service	Start Date	Start Time	End Date
12/8/2020	Emergency Medicine	12/8/2020	0730	12/8/2020

Order Details

Frequency	Duration	Priority	Order Class
1 time imaging	1 occurrence	STAT	Ancillary Performed

Order Questions

Question	Answer	Comments
R/O	03 Fracture/subluxation	Keep pt supine until cleared

Sign Symptom: 03 Pain
Note: the selection of "Other" requires further explanation in the Additional Comments section

Order Provider Info

	Office Phone	Pager/beeper	Email
Ordering User: Frank B Moyes, DO	484-628-3637	--	--
Authorizing Provider: Frank B Moyes, DO	484-628-3637	--	--
Attending Provider: Frank B Moyes, DO	484-628-3637	--	--

RHSIS Medical Imaging Program
Skills Lab

31

Children's Clinic of Wyomissing
2240 Ridgewood Rd, Ste 100
Wyomissing, PA 19610-1286

Phone: 610-376-8691
Fax: 610-376-8745

Ordered By: Salvatore Anzalone, MD
Physician ID: NPID: 1871591180

Date: 02/15/2013
Patient Name: Sex: M
Birthdate: 12/03/1995 Patient ID: 123456
Address: Day Tel:
Home Tel:

Insurance: PA BLUE SHIELD Guarantor DOB:
Insured ID: OPB104378160001 Group #: 02536400
Guarantor: Rel to Guar: CHILD

Requisition: Outside Lab
Requisition ID:
Diagnostic Codes:
786.5 CHEST PAIN
CHEST PA & LATERAL [71020]


 printed 02/15/2013 9:38:24 AM
 Call Report: 610-376-8691

STAT: Fasting:

Example:
**Outpatient/Written
order= Transcribed**

32

CT Abd / Pelvis W Contrast (Order 88388120)

CT ABD / PELVIS W CONTRAST [88388120]

Electronically signed by: **Finn Adamite, MD on 05/06/19 1156**
 This order may be acted on in another encounter.
 Ordering user: Finn Adamite, MD 05/06/19 1156 Ordering provider: Finn Adamite, MD
 Authorized by: Finn Adamite, MD Ordering mode: Standard

Status: Active

Questionnaire

Question	Answer
Is a verbal report needed?	No

Order details

Screening Form

General Information

Patient Name: Kix, Jill	MRN: 3018053
Date of Birth: 9/4/1990	Home Phone: 111-111-1111
Legal Sex: Female	

Procedure	Ordering Provider	Authorizing Provider	Appointment Information
CT ABD / PELVIS W CONTRAST	Finn Adamite, MD	Finn Adamite, MD	5/6/2019 3:30 PM RAD CT A RH RAD CT

Screening Form Questions

No questions have been answered for this form.

*Example: EPIC
Inpatient Order*

Reason for Exam

Abd pain, appendicitis suspected

Priority: Routine

Diagnosis

Rheumatoid osteoperiostitis

Codes

ICD-10-CM: M86.9

ICD-9-CM: 730.20

Comments

33

Military Time

- Military time is based off a 24-hour clock
- Some healthcare facilities utilize military time in documentation



24-Hour Clock (Military Time) Conversion Chart

TIME	24-HOUR TIME	TIME	24-HOUR TIME
12:01 AM	0001	12:01 PM	1201
12:05 AM	0005	12:05 PM	1205
12:30 AM	0030	12:30 PM	1230
12:45 AM	0045	12:45 PM	1245
1:00 AM	0100	1:00 PM	1300
2:00 AM	0200	2:00 PM	1400
3:00 AM	0300	3:00 PM	1500
4:00 AM	0400	4:00 PM	1600
5:00 AM	0500	5:00 PM	1700
6:00 AM	0600	6:00 PM	1800
7:00 AM	0700	7:00 PM	1900
8:00 AM	0800	8:00 PM	2000
9:00 AM	0900	9:00 PM	2100
10:00 AM	1000	10:00 PM	2200
11:00 AM	1100	11:00 PM	2300
12:00 NOON	1200	12:00 MIDNIGHT	2400

34

Procedural Routine Pre-Procedure

Equipment preparation

- Radiographic room is prepared, with necessary supplies in place before the patient arrives in the room (Sheet is placed on the table, shield, sponges, etc.)
- X-Ray tube in position with applicable equipment readily available

Operating console preparation:

- Verify correct selection of patient name/MRN/accession #
- Enter HS# if applicable
- Select proper study/view within the operation console
- Select and verify appropriate kVp, mA and time/mAs, and ionization chambers (as necessary)

35

Procedural Routine Pre-Procedure

Retrieve patient from waiting area

- Introduce self
- Verify patient ID
- Address footwear and question pain meds/stability if applicable

The patient is properly gowned with all unnecessary/interfering clothing, jewelry, dentures, etc. removed

36

Procedural Routine Procedure

- **Escort the patient safely into the room** – Evaluation of medication/footwear, Patient Valuables (Review policy); Hand-Off Communication (Review policy)
- **Introduce yourself to the patient as a student as well as introduction of your technologist/Faculty**
 - Permission to participate in study
- **Re-confirm patient identification** – 2 patient identifiers



37

Procedural Routine Procedure

- **Obtain LMP/Pregnancy Status** – (Review policy)
 - Imaging Pregnant Patient Policy
 - Why? Importance?
 - 8-55 years of age
 - 2-part question
 - **First** day of last menstrual period/cycle?
 - Assess for chance of pregnancy – “Is there any chance of pregnancy?”



38

Obtain History

Sacred Seven

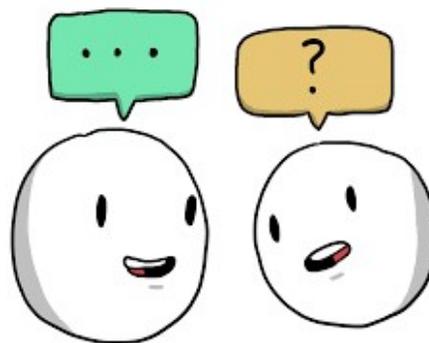


39

Effective Histories

- Open ended questions
- Probing question to focus on details
- Encourage elaboration
- Give the patient time to collect their thoughts
- Repetition or rewording
- Summarize to verify history

*Includes subjective (perceived) and objective (signs seen) data



40

Procedural Routine Procedure

- **Procedure explained to the patient**
- **Take precautionary measures to ensure patient safety** - application of brakes, footwear
- **Radiation protection practices applied** – appropriate gonadal shielding based on path of central ray
- **Assistance provided to patient during positioning**
- **Collimation appropriate for view**
- **Correctly manipulate equipment to obtain designated centering/projection**
- **Communicate breathing or movement instructions**



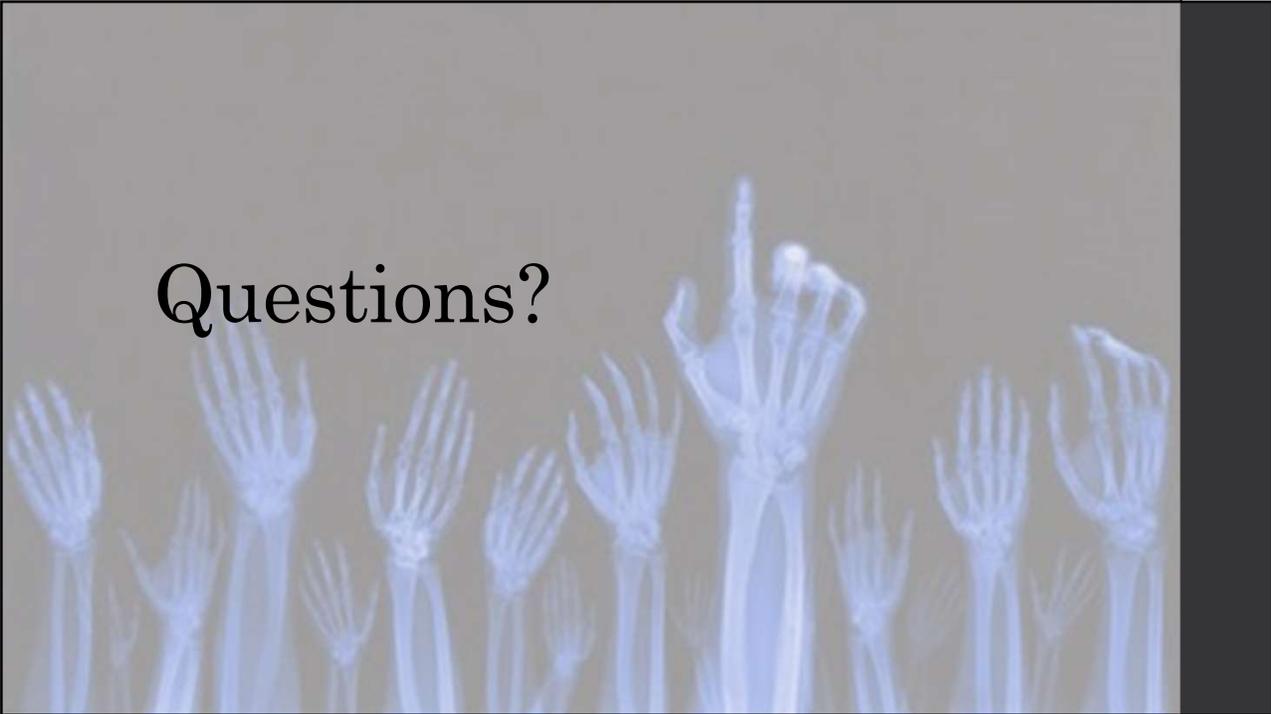
41

Procedural Routine Post-Procedure

- **Correctly dismiss patient from procedure**
 - Verbal Report/Image Check
- **Verify images sent to PACS with technologist approval**
- **Complete EPIC documentation**



42



43

MI 123: Clinical Seminar I Lecture #2

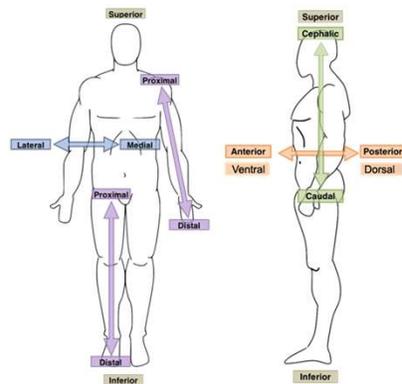
Mrs. Heather Herb

Standard Terms

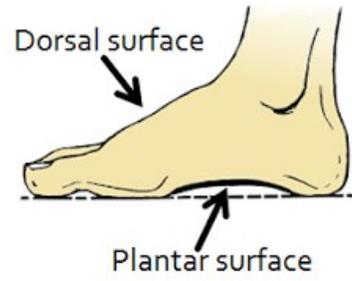
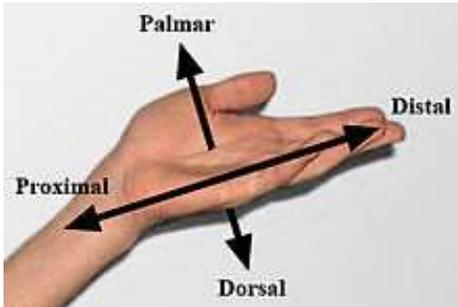
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Standard Terms

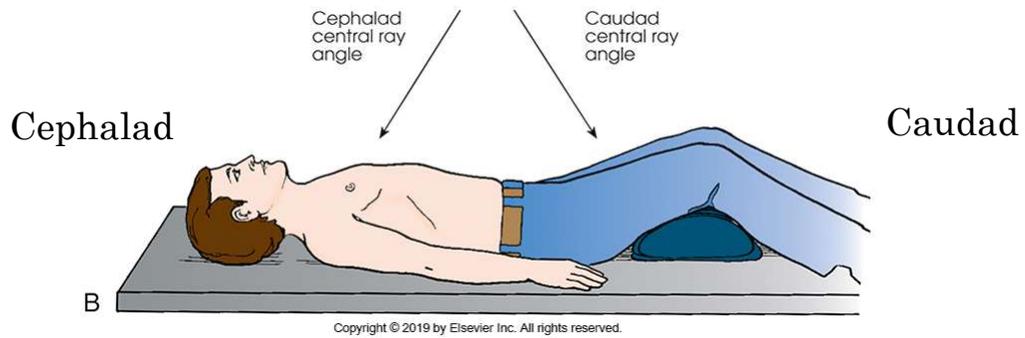
- Anterior (Ventral)
- Posterior (Dorsal)
- Lateral
- Medial
- Superior
- Inferior
- Proximal
- Distal
- Caudad
- Cephalad
- Palmar
- Plantar



2



3

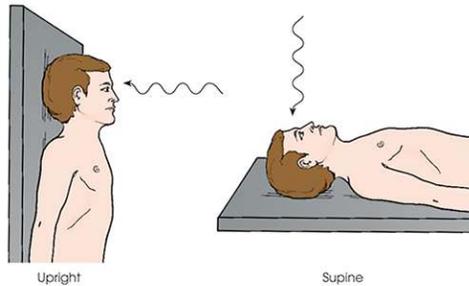


4

Positions

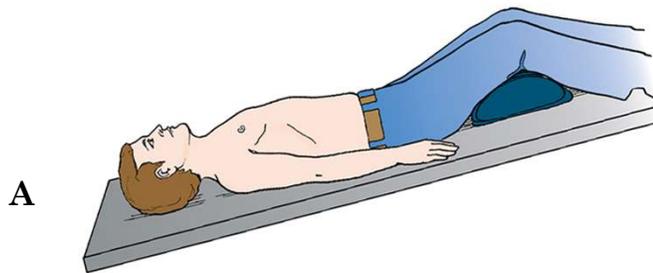
Identification of the overall posture of the patient or the general body position

- Recumbent
- Supine
- Prone
- Erect / Upright
- Trendelenburg

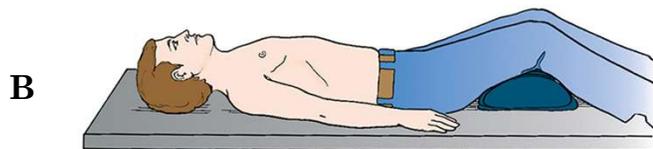


Supine
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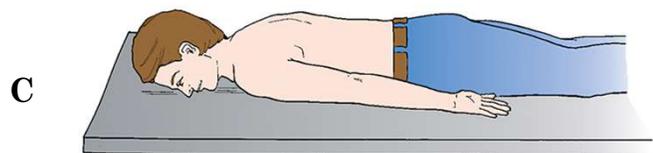
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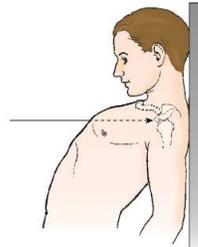
6

Radiographic Body Positions

Placement of the body part in relation to the radiographic table or IR during imaging

- Anterior
- Posterior
- Lordotic

- Lateral
- Decubitus
- Oblique



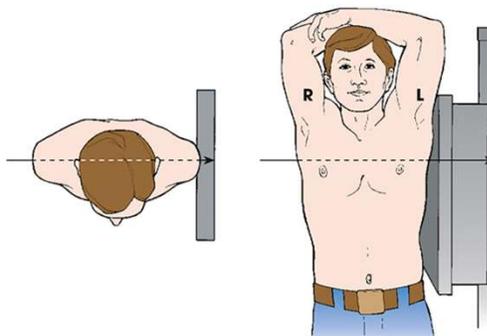
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Radiographic Body Positions

- Lateral
 - Further described as a right or left lateral depending on side against the image receptor

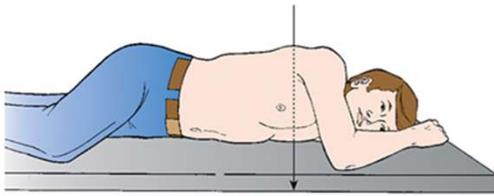
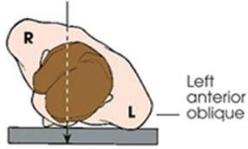
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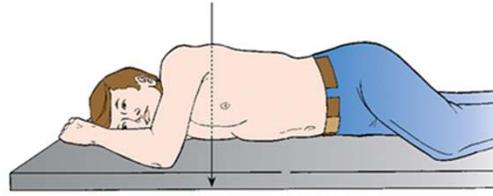
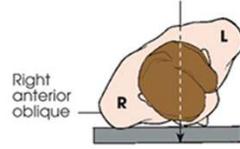
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8

LAO- left anterior oblique

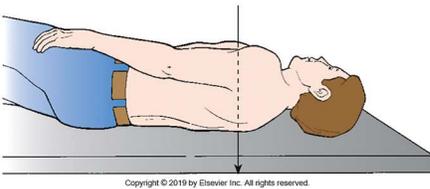
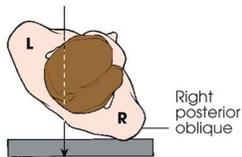


RAO- right anterior oblique

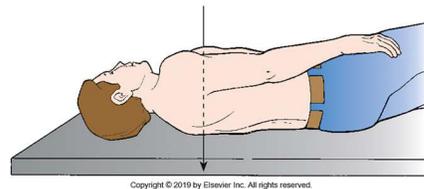
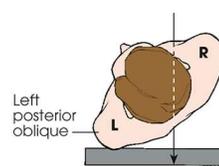


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RPO- right posterior oblique

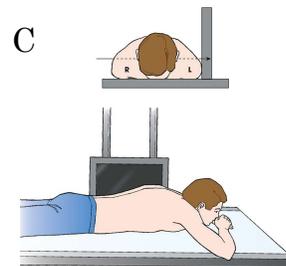
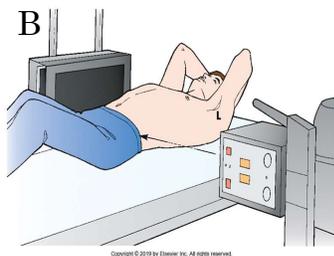
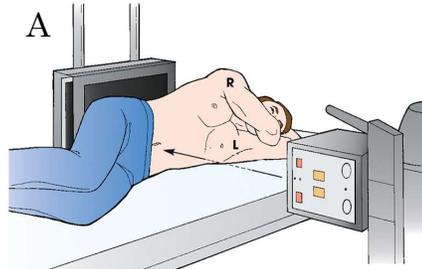


LPO- left posterior oblique



10

Decubitus



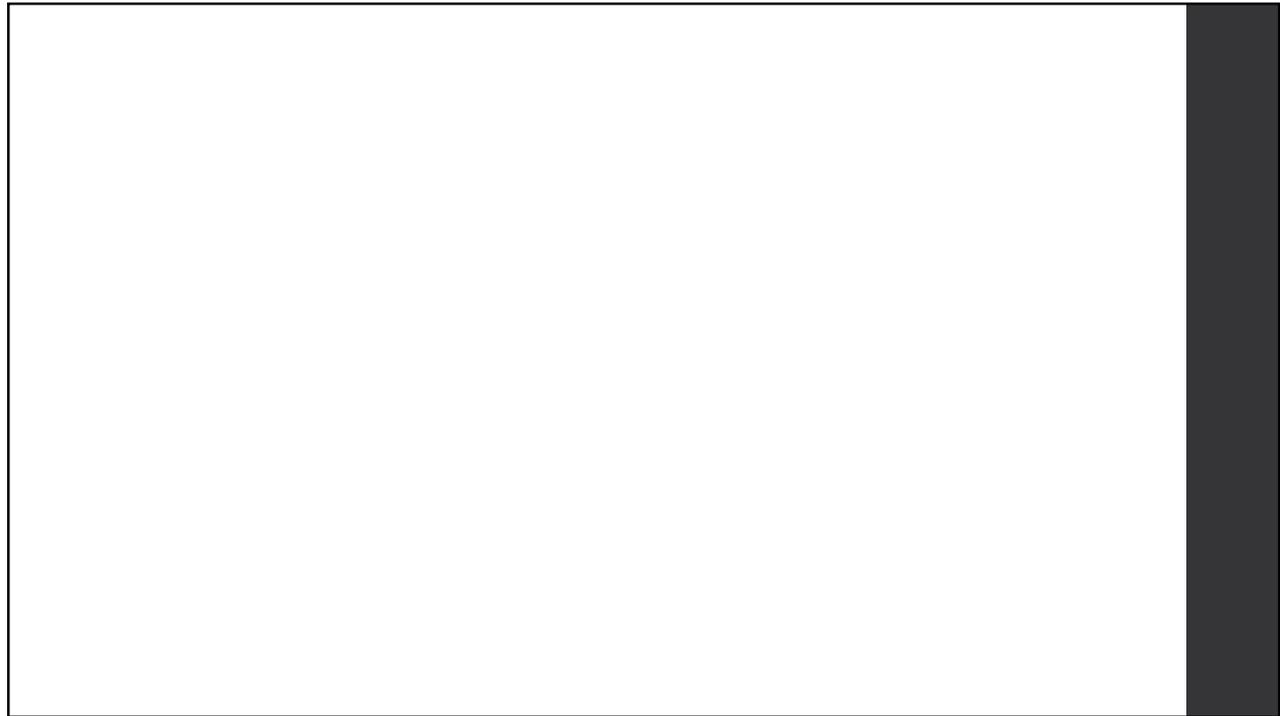
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Body Movement Terminology

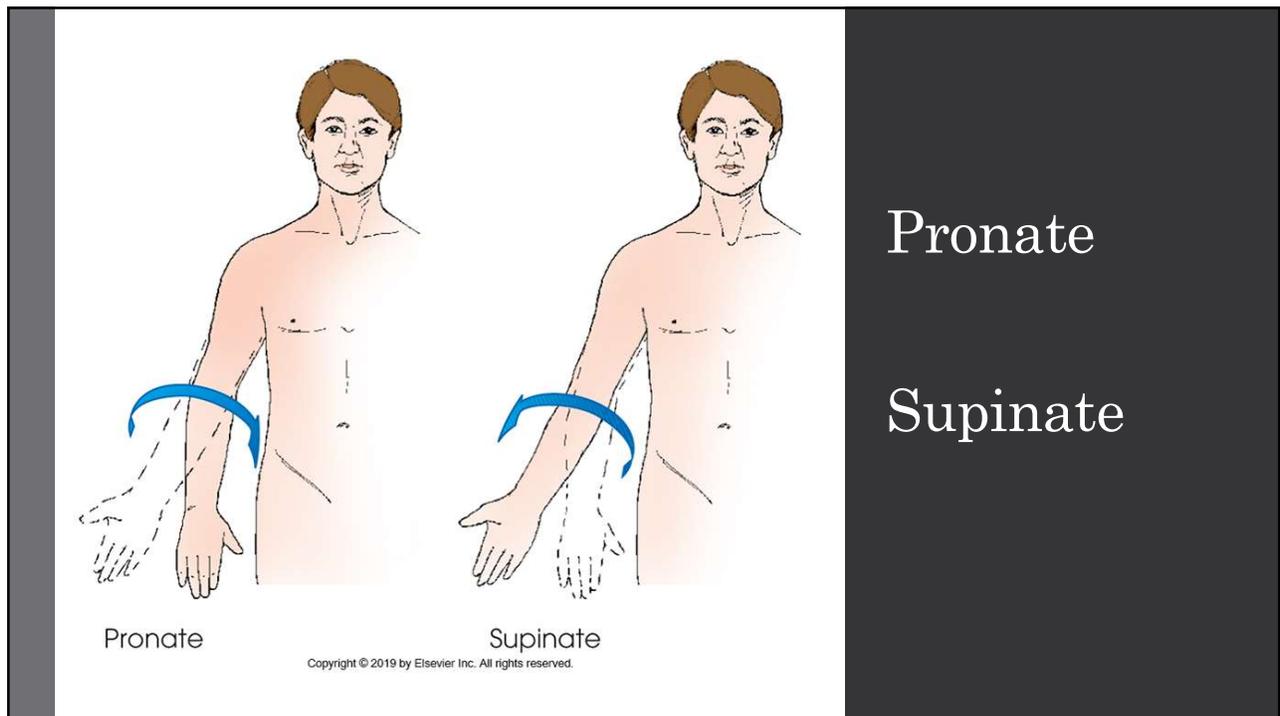
Movement related to limbs used often in positioning description and patient history.

- Supinate
- Pronate
- Abduction
- Adduction
- Eversion
- Inversion
- Extension
- Flexion
- External
- Internal

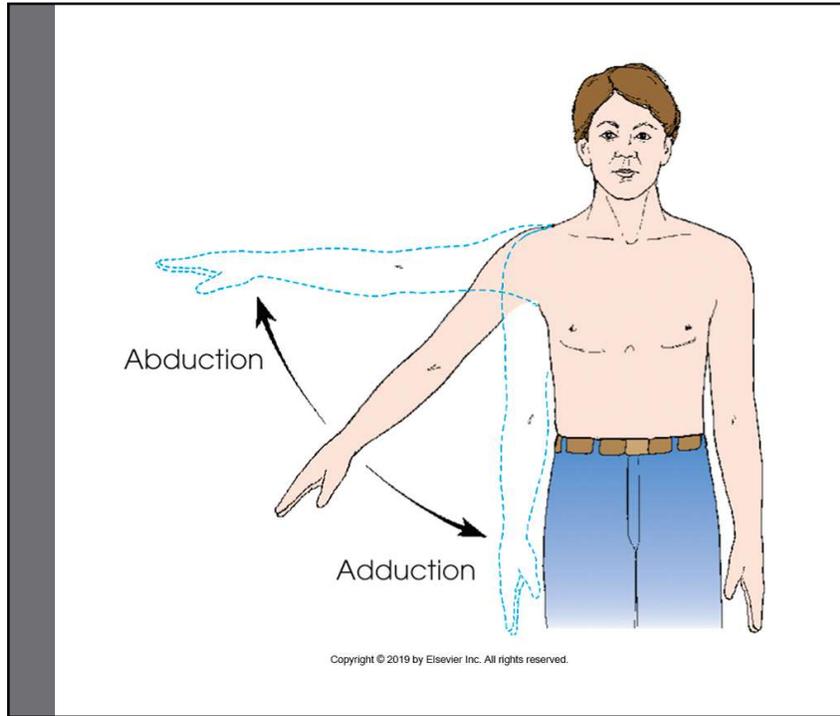
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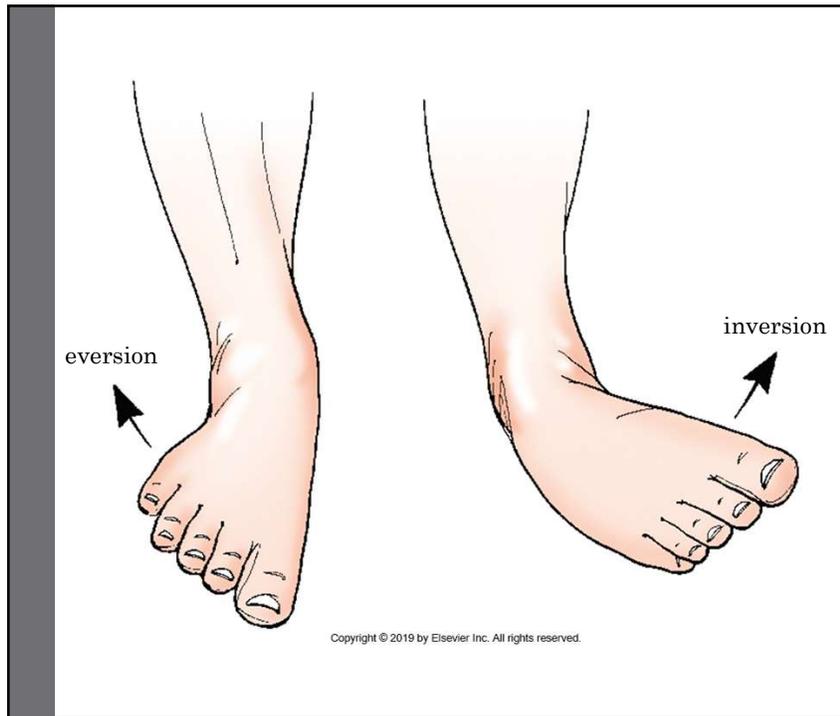
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Abduction

Adduction

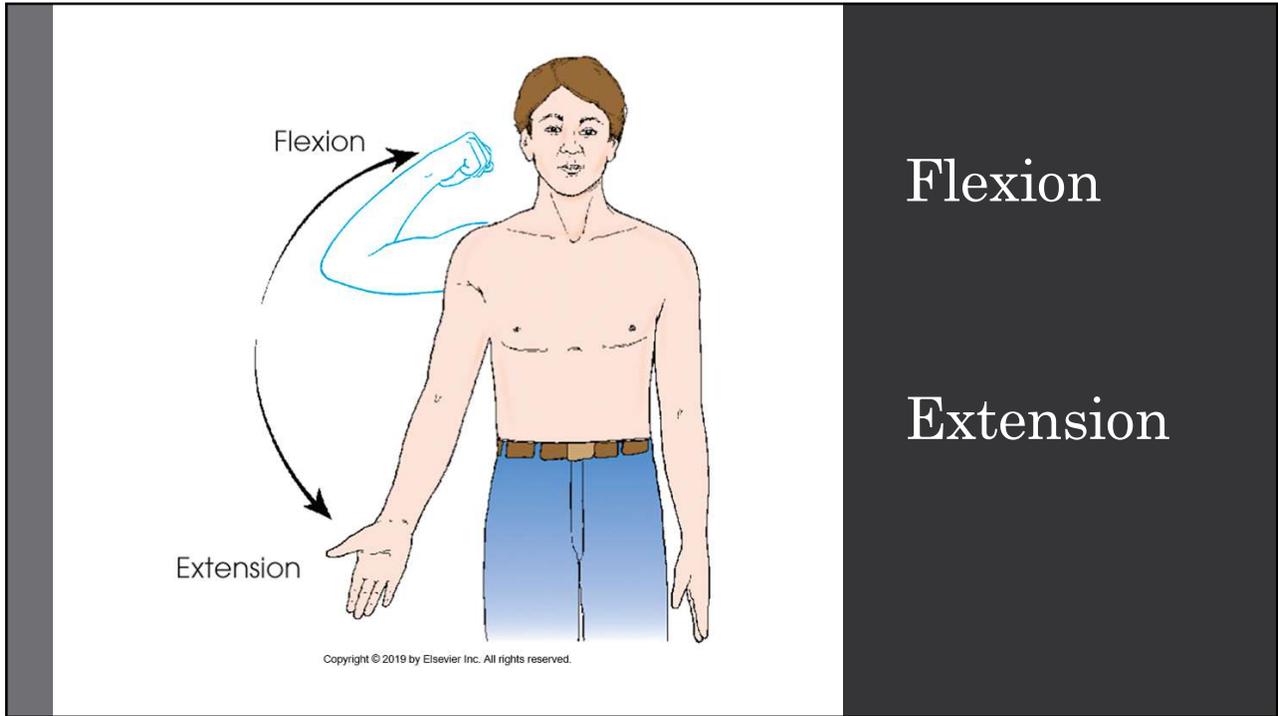
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Eversion

Inversion

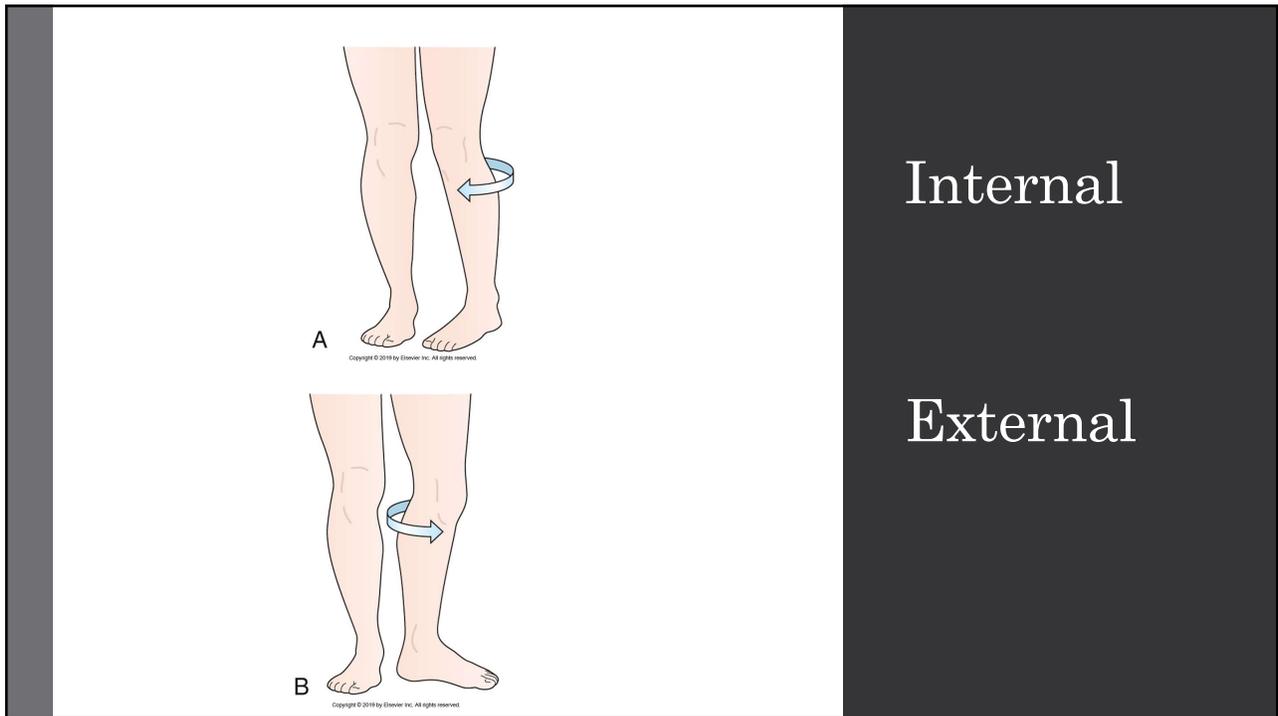
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Flexion

Extension

17



Internal

External

18

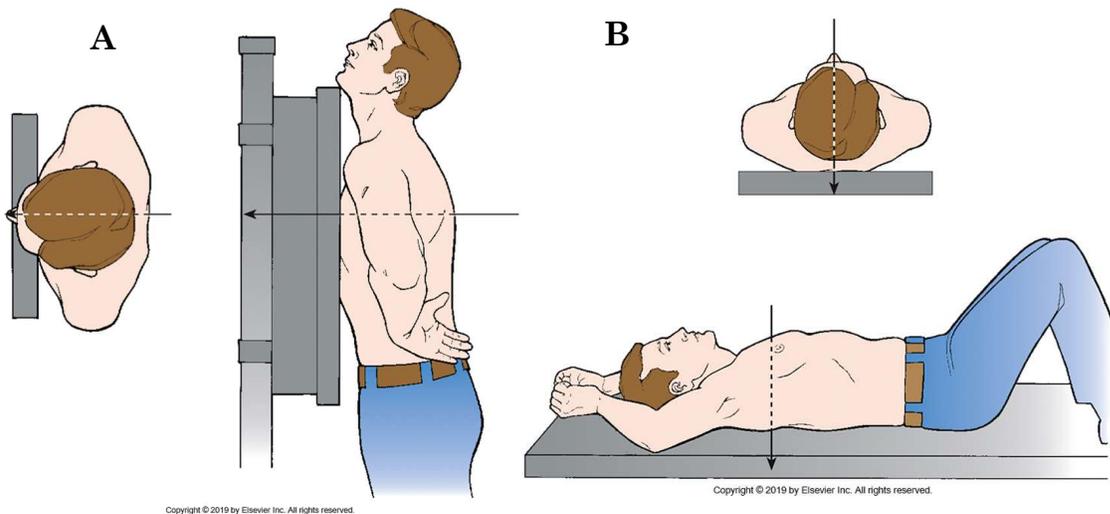
Projection

Described by the **path of the central ray** as it goes through the patient to the IR

- This is based on entrance and exit points in the body and the patient anatomic position
- Regardless of patient position (erect or recumbent)
 - Anteroposterior (AP)
 - Posteroanterior (PA)
 - Lateral Projection
 - Oblique Projection

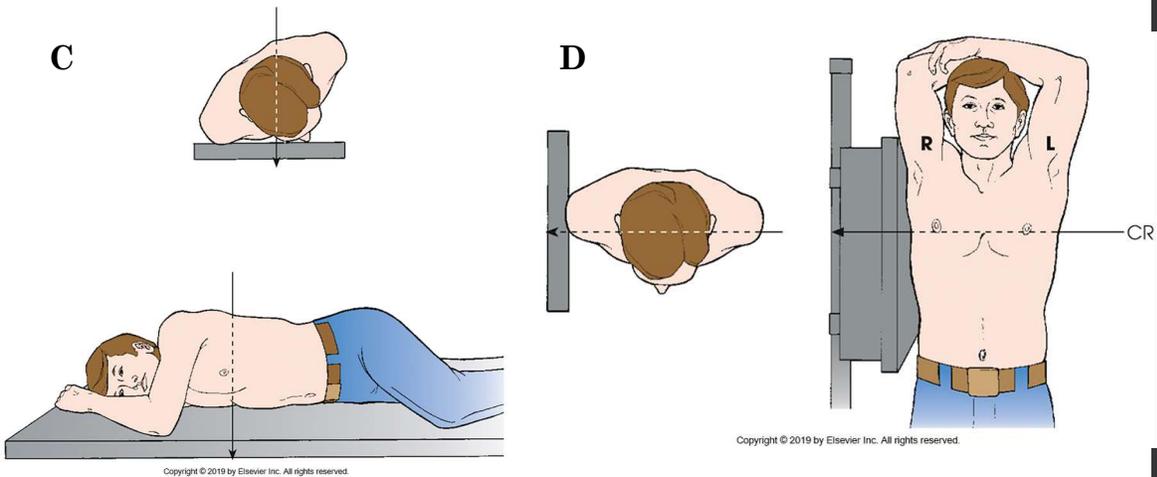
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Projection and Position



20

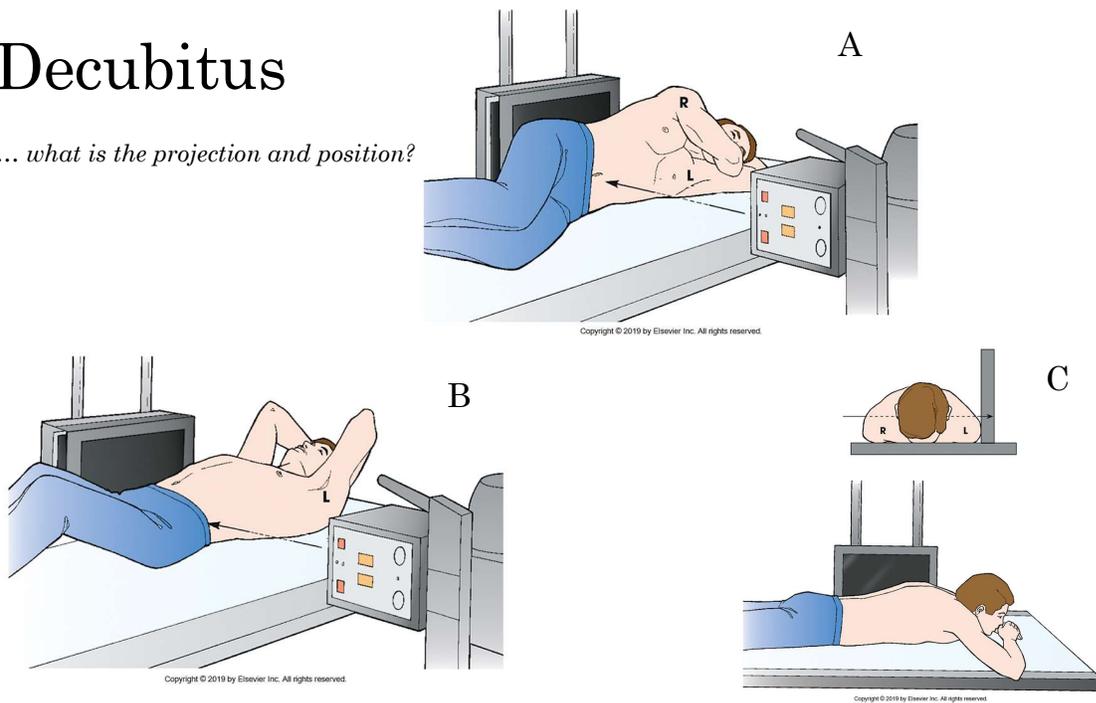
Projection and Position



21

Decubitus

... what is the projection and position?



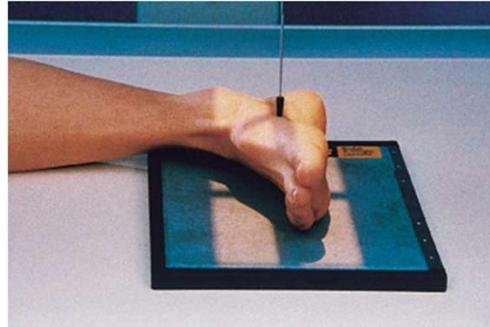
22

Extremities

A



B



23

MI 123: Clinical Seminar I

- ❖ **PROCEDURAL ROUTINE**
- ❖ **DOCUMENTATION/ORDERS**
- ❖ **HISTORY TAKING**
- ❖ **POLICIES:**
 - Patient Valuables
 - "Hand Off" Communication – Hall Pass
 - Imaging Pregnant Patients

24



Steps of a Procedural Routine

25

Types of patients

Private Out (OP) / Outpatient

- Can have a scheduled appointment or be a walk-in
 - Walk in - a patient that does not have an appointment
- Sent in from a physician's office with an order from a physician
- Could result in the need for a Verbal report / Image check

Inpatient

- Nursing Floors
- Intensive Care Units
 - SICU
 - MICU
 - NICU
 - PACU
- Pre-Admission Testing

Emergency Department



26

Procedural
Routine
Pre-
procedure

Review request/control sheet

- **Identify the radiographic procedure requested by the physician**
- **Review the order to evaluate for accuracy**

27



PHYSICIAN ORDER

- A physician orders a certain x-ray for a patient (left hand, right foot, lumbar spine, etc...)
- The physician will:
 - Order the radiographic procedure
 - The order may arrive with the patient (on an order slip/script), be faxed to the facility, or be electronic
 - RH – all radiographic orders expire 14 months after they are prescribed
 - Electronically ordered in EPIC
 - All Inpatients will have orders placed electronically in EPIC

28

Orders

- CPT Code- Current Procedural Terminology (AMA) CHEST PA & LATERAL [71020]
 - Codes that are assigned to every task and service that can be provided to a patient
 - Must be correct for insurance reimbursement/ payments
- ICD-10 Codes- International Statistical Classifications of Diseases
 - Alphanumeric assignments given to diagnosis and symptoms
 - Very detailed and specific

Table 1 – Comparisons of the Diagnosis Code Sets

ICD-9	ICD-10
3-5 characters in length	3-7 characters in length
Approximately 13,000 codes	Approximately 68,000 available codes
First digit may be alpha (E or V) or numeric; digits 2-5 are numeric	Digit 1 is alpha; digits 2 and 3 are numeric; digits 4-7 are alpha or numeric
Limited space for adding new codes	Flexible for adding new codes
Lacks detail	Very specific
Lacks laterality	Has laterality (i.e., codes identifying right vs. left)

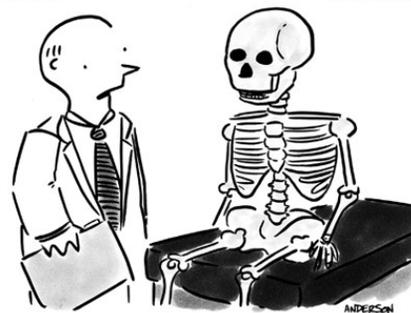
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Requests

- A paper in which lists:
 - patient name, address, MRN, ordering doctor and phone number, study, codes for charging, numbers to track study in computer (accession number), list of most recent studies performed, etc...
 - Control sheet
 - Requisition
- Can be entered by clerical staff
 - Intake specialist
 - Unit clerks
- Always check the procedure on the request to the physician order to verify procedure
 - If there is a discrepancy, the physician's order is the correct of the two

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"Still, let's do an x-ray just to be sure."

30

Control Sheet vs Request

Reading Hospital
Department of Radiology Diagnostic Order Request

ACCESSION #: 12345678

MRN: 486223

Fox, Hannah

DOB: 8/2/1989, 31 year-old Female
ALLERGIES: Not on File
HEIGHT:
WEIGHT:
ROOM/REQ: O2:
METHOD OF TRANSPORT: ISOLATION:
ACCOUNT: 13000993032
CIN: 30002657465
Primary Insurance: IDA-INDEPENDENCE AETNA
Secondary Insurance:
THIS IS NOT YOUR IMAGING ORDER. YOU MUST VERIFY THE PROCEDURE ORDER IN THE ELECTRONIC MEDICAL RECORD.

PROCEDURE:
XR Nasal Bones Routine

PRIORITY: Routine
DIAGNOSIS: Nasal bone pain [882.2 (ICD-10-CM)]
REASON FOR EXAM: Injury
COMMENTS:
PREVIOUS EXAM: XR Foot
ORDERING MD: Jacob S Good
AUTHORIZING MD: Jacob S Good
PCP MD: Physician, No
Other Exams for Today:

RHSIS Medical Imaging Program
Skills Lab

Order Requisition

Name	MRN	DOB	Sex	Unit	Room/Bed	NAB
Boyer, Kyle	1234568	10/01/1977 (43)	F	EO	COS-005	1000002123457

XR Cervical Spine 1 View (Order #: 48276167)

Order Information

Order Date	Service	Start Date	Start Time	End Date
12/8/2020	Emergency Medicine	12/8/2020	0730	12/8/2020

Order Details

Frequency	Duration	Priority	Order Class
1 time imaging	1 occurrence	STAT	Ancillary Performed

Order Questions

Question	Answer	Comments
R/O	03 Fracture/subluxation	Keep pt supine until cleared

Sign Symptom: 03 Pain
Note: the selection of "Other" requires further explanation in the Additional Comments section

Order Provider Info

	Office Phone	Pager/beeper	Email
Ordering User: Frank B Moyes, DO	484-628-3637	--	--
Authorizing Provider: Frank B Moyes, DO	484-628-3637	--	--
Attending Provider: Frank B Moyes, DO	484-628-3637	--	--

RHSIS Medical Imaging Program
Skills Lab

31

Children's Clinic of Wyomissing
2240 Ridgewood Rd, Ste 100
Wyomissing, PA 19610-1286

Phone: 610-376-8691
Fax: 610-376-8745

Ordered By: Salvatore Anzalone, MD
Physician ID: NPID: 1871591180

Date: 02/15/2013
Patient Name: Sex: M
Birthdate: 12/03/1995 Patient ID: 123456
Address: Day Tel:
Home Tel:

Insurance: PA BLUE SHIELD Guarantor DOB:
Insured ID: OPB104378160001 Group #: 02536400
Guarantor: Rel to Guar: CHILD

Requisition: Outside Lab
Requisition ID:
Diagnostic Codes:
786.5 CHEST PAIN
CHEST PA & LATERAL [71020]

Salvatore Anzalone

STAT: Fasting: printed 02/15/2013 9:38:24 AM
Call Report: 610-376-8691

Example:
**Outpatient/Written
order= Transcribed**

32

CT Abd / Pelvis W Contrast (Order 88388120)

CT ABD / PELVIS W CONTRAST [88388120]

Electronically signed by: **Finn Adamite, MD on 05/06/19 1156**
 This order may be acted on in another encounter.
 Ordering user: Finn Adamite, MD 05/06/19 1156 Ordering provider: Finn Adamite, MD
 Authorized by: Finn Adamite, MD Ordering mode: Standard

Status: Active

Questionnaire

Question	Answer
Is a verbal report needed?	No

Order details

Screening Form

General Information

Patient Name: Kix, Jill	MRN: 3018053
Date of Birth: 9/4/1990	Home Phone: 111-111-1111
Legal Sex: Female	

Procedure	Ordering Provider	Authorizing Provider	Appointment Information
CT ABD / PELVIS W CONTRAST	Finn Adamite, MD	Finn Adamite, MD	5/6/2019 3:30 PM RAD CT A RH RAD CT

Screening Form Questions
 No questions have been answered for this form.

*Example: EPIC
 Inpatient Order*

Reason for Exam

Abd pain, appendicitis suspected

Priority: Routine

Diagnosis

Rheumatoid osteoperiostitis

Codes
 ICD-10-CM: M86.9
 ICD-9-CM: 730.20

Comments

33

Military Time

- Military time is based off a 24-hour clock
- Some healthcare facilities utilize military time in documentation



24-Hour Clock (Military Time) Conversion Chart

TIME	24-HOUR TIME	TIME	24-HOUR TIME
12:01 AM	0001	12:01 PM	1201
12:05 AM	0005	12:05 PM	1205
12:30 AM	0030	12:30 PM	1230
12:45 AM	0045	12:45 PM	1245
1:00 AM	0100	1:00 PM	1300
2:00 AM	0200	2:00 PM	1400
3:00 AM	0300	3:00 PM	1500
4:00 AM	0400	4:00 PM	1600
5:00 AM	0500	5:00 PM	1700
6:00 AM	0600	6:00 PM	1800
7:00 AM	0700	7:00 PM	1900
8:00 AM	0800	8:00 PM	2000
9:00 AM	0900	9:00 PM	2100
10:00 AM	1000	10:00 PM	2200
11:00 AM	1100	11:00 PM	2300
12:00 NOON	1200	12:00 MIDNIGHT	2400

34

Procedural Routine Pre-Procedure

Equipment preparation

- Radiographic room is prepared, with necessary supplies in place before the patient arrives in the room (Sheet is placed on the table, shield, sponges, etc.)
- X-Ray tube in position with applicable equipment readily available

Operating console preparation:

- Verify correct selection of patient name/MRN/accession #
- Enter HS# if applicable
- Select proper study/view within the operation console
- Select and verify appropriate kVp, mA and time/mAs, and ionization chambers (as necessary)

35

Procedural Routine Pre-Procedure

Retrieve patient from waiting area

- Introduce self
- Verify patient ID
- Address footwear and question pain meds/stability if applicable

The patient is properly gowned with all unnecessary/interfering clothing, jewelry, dentures, etc. removed

36

Procedural Routine Procedure

- **Escort the patient safely into the room** – Evaluation of medication/footwear, Patient Valuables (Review policy); Hand-Off Communication (Review policy)
- **Introduce yourself to the patient as a student as well as introduction of your technologist/Faculty**
 - Permission to participate in study
- **Re-confirm patient identification** – 2 patient identifiers



37

Procedural Routine Procedure

- **Obtain LMP/Pregnancy Status** – (Review policy)
 - Imaging Pregnant Patient Policy
 - Why? Importance?
 - 8-55 years of age
 - 2-part question
 - **First** day of last menstrual period/cycle?
 - Assess for chance of pregnancy – “Is there any chance of pregnancy?”



38

Obtain History

Sacred Seven

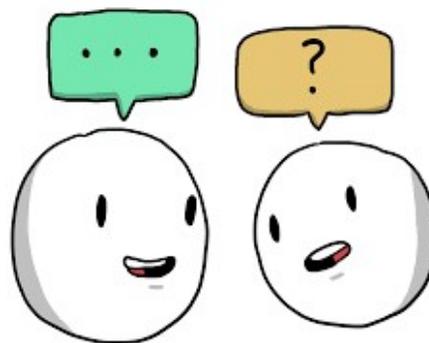


39

Effective Histories

- Open ended questions
- Probing question to focus on details
- Encourage elaboration
- Give the patient time to collect their thoughts
- Repetition or rewording
- Summarize to verify history

*Includes subjective (perceived) and objective (signs seen) data



40

Procedural Routine Procedure

- **Procedure explained to the patient**
- **Take precautionary measures to ensure patient safety** - application of brakes, footwear
- **Radiation protection practices applied** – appropriate gonadal shielding based on path of central ray
- **Assistance provided to patient during positioning**
- **Collimation appropriate for view**
- **Correctly manipulate equipment to obtain designated centering/projection**
- **Communicate breathing or movement instructions**



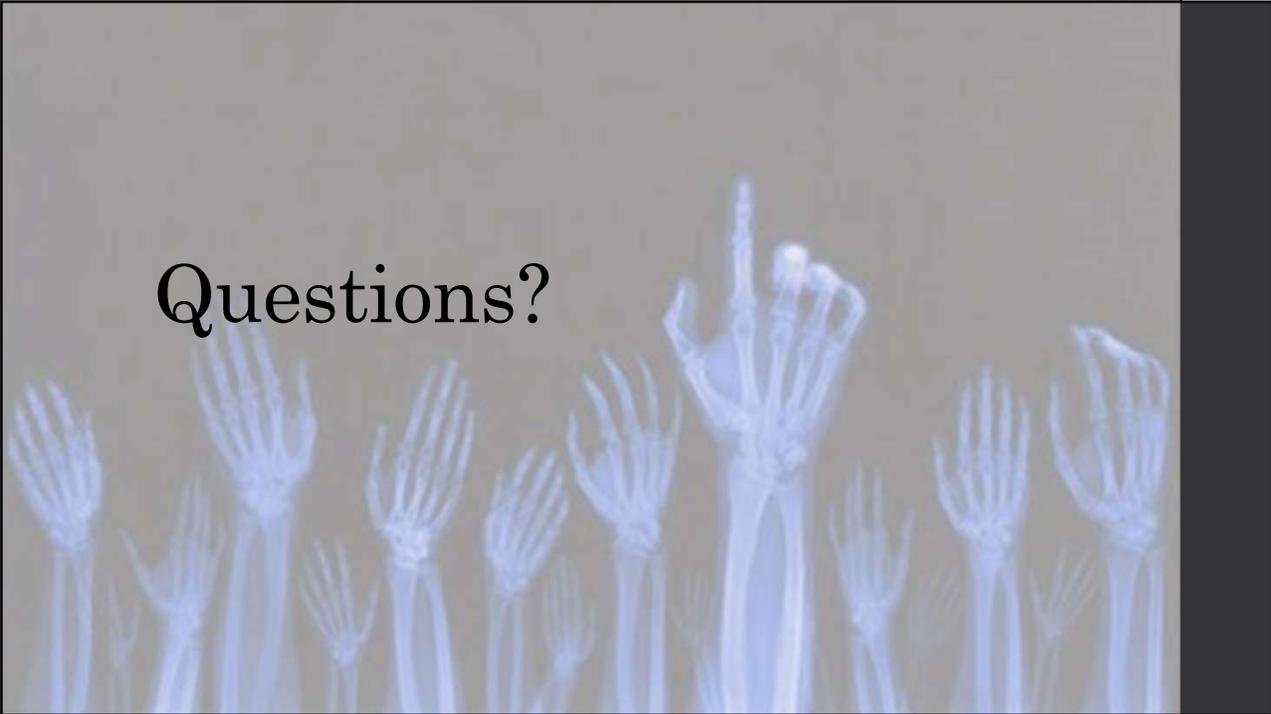
41

Procedural Routine Post-Procedure

- **Correctly dismiss patient from procedure**
 - Verbal Report/Image Check
- **Verify images sent to PACS with technologist approval**
- **Complete EPIC documentation**



42



43

MI 123: Clinical Seminar I Lecture #2

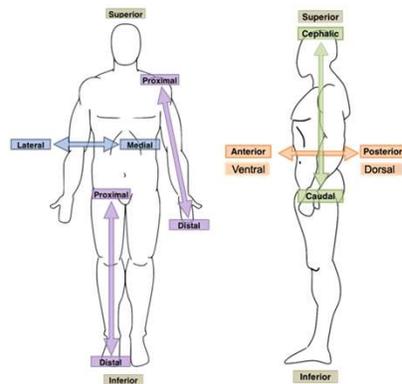
Mrs. Heather Herb

Standard Terms

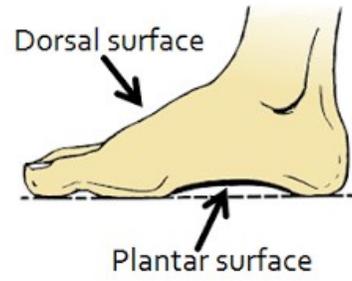
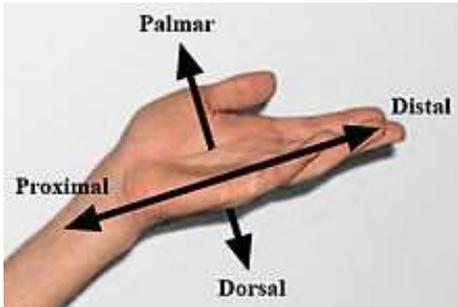
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Standard Terms

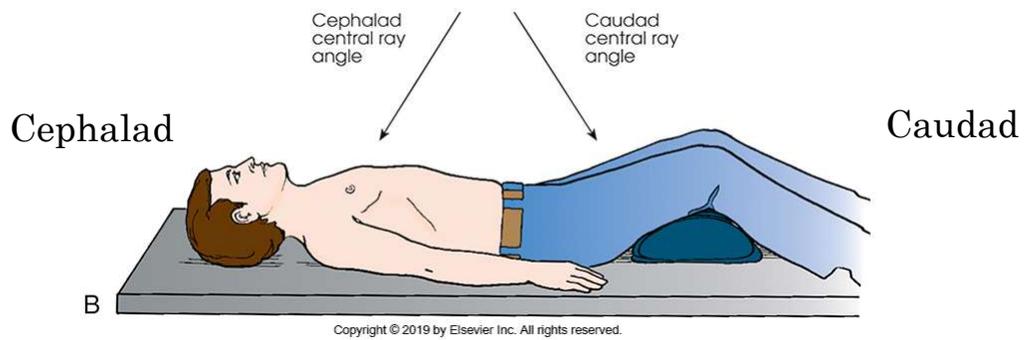
- Anterior (Ventral)
- Posterior (Dorsal)
- Lateral
- Medial
- Superior
- Inferior
- Proximal
- Distal
- Caudad
- Cephalad
- Palmar
- Plantar



2



3

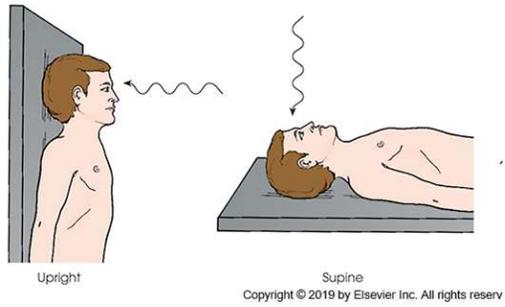


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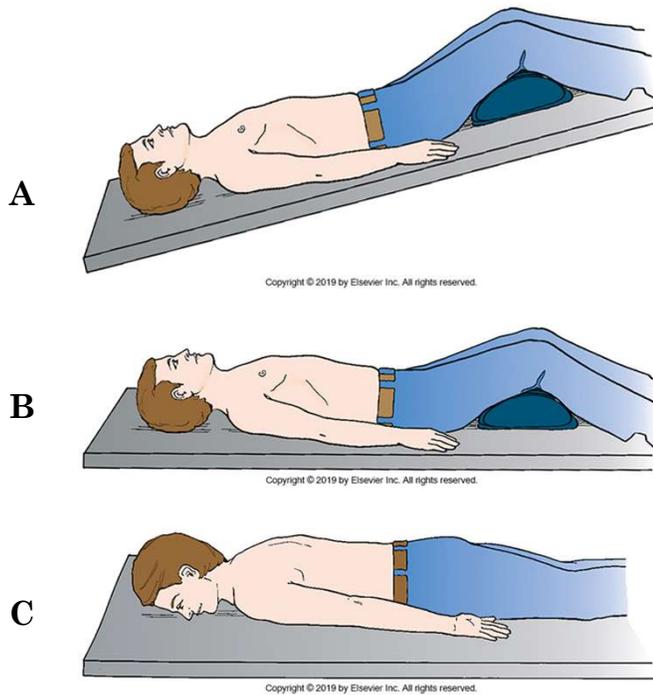
Positions

Identification of the overall posture of the patient or the general body position

- Recumbent
- Supine
- Prone
- Erect / Upright
- Trendelenburg



5



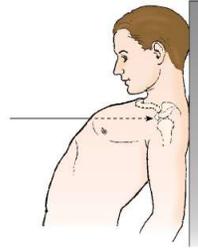
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Radiographic Body Positions

Placement of the body part in relation to the radiographic table or IR during imaging

- Anterior
- Posterior
- Lordotic

- Lateral
- Decubitus
- Oblique



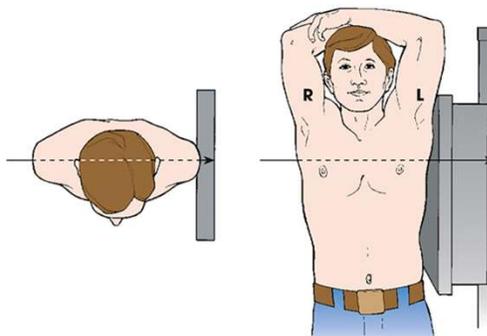
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7

Radiographic Body Positions

- Lateral
 - Further described as a right or left lateral depending on side against the image receptor

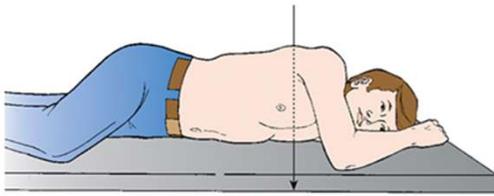
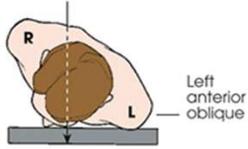
- Oblique
 - Further specified according to patient's relationship to the image receptor.
 - Right Posterior Oblique (RPO)
 - Left Posterior Oblique (LPO)
 - Right Anterior Oblique (RAO)
 - Left Anterior Oblique (LAO)



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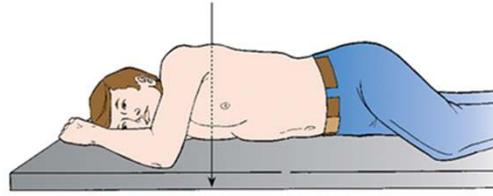
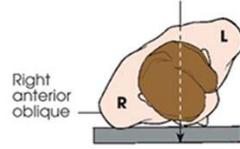
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LAO- left anterior oblique



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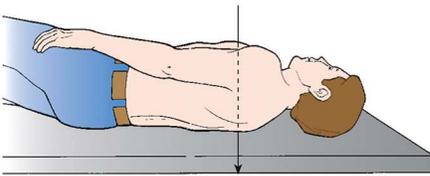
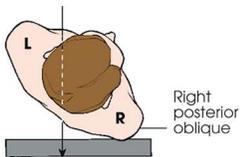
RAO- right anterior oblique



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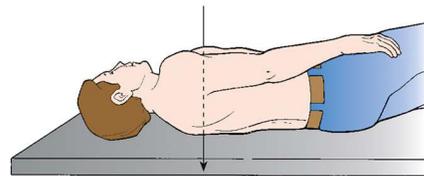
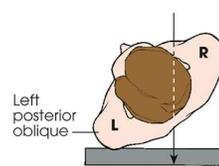
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RPO- right posterior oblique



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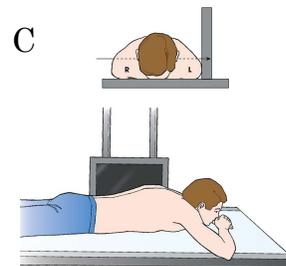
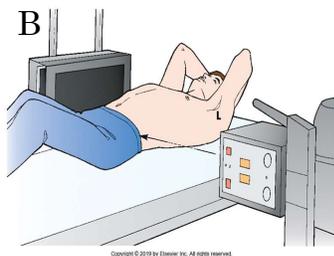
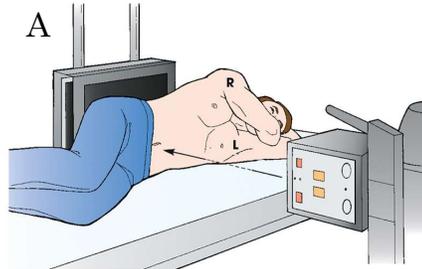
LPO- left posterior oblique



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10

Decubitus



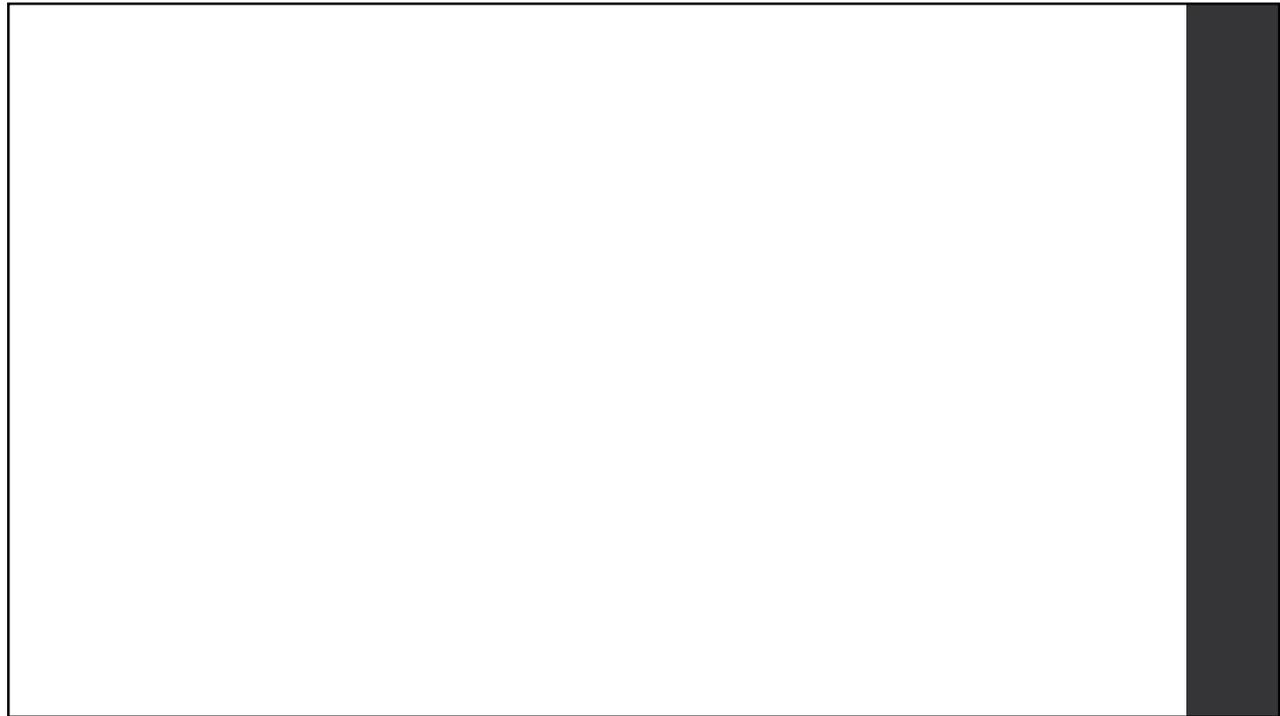
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Body Movement Terminology

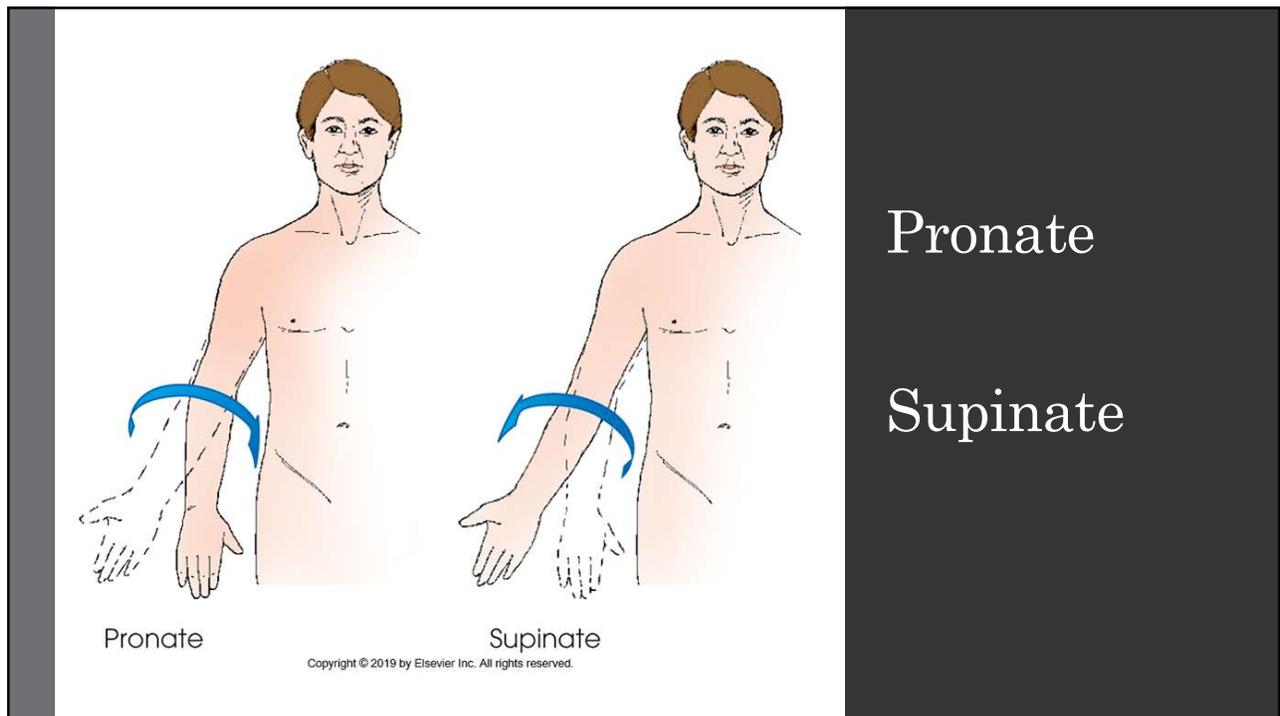
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- Internal

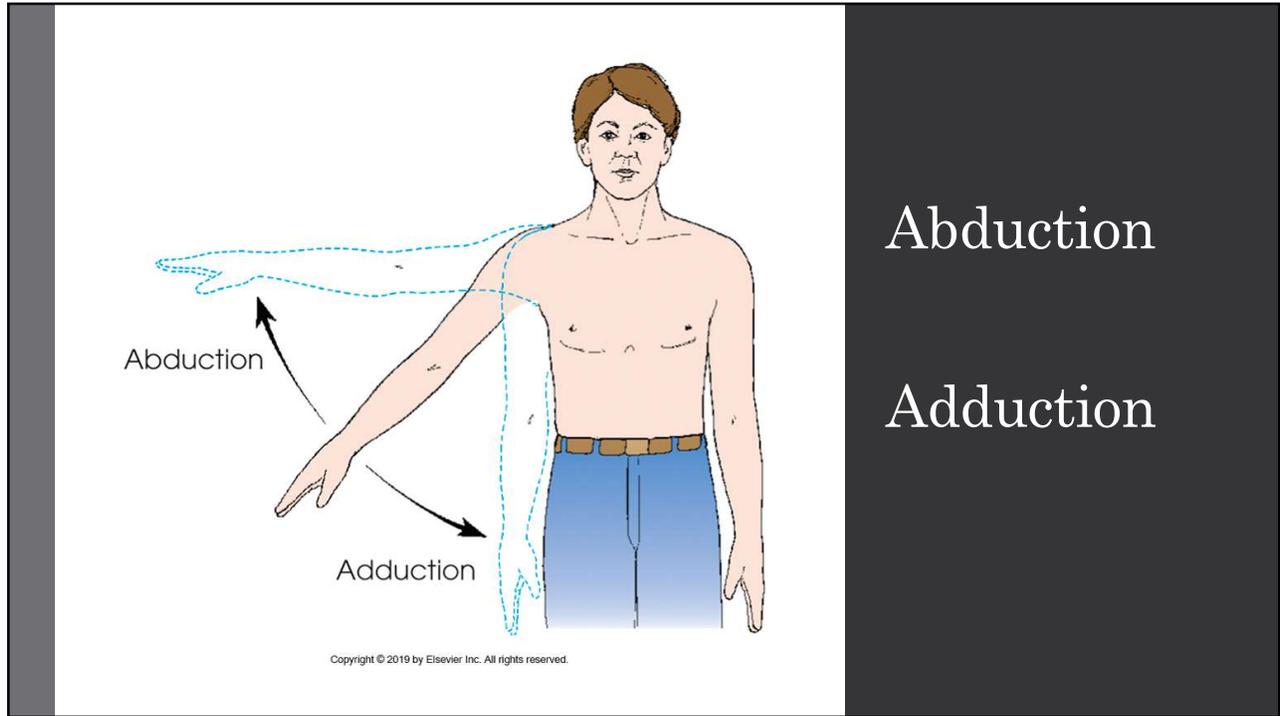
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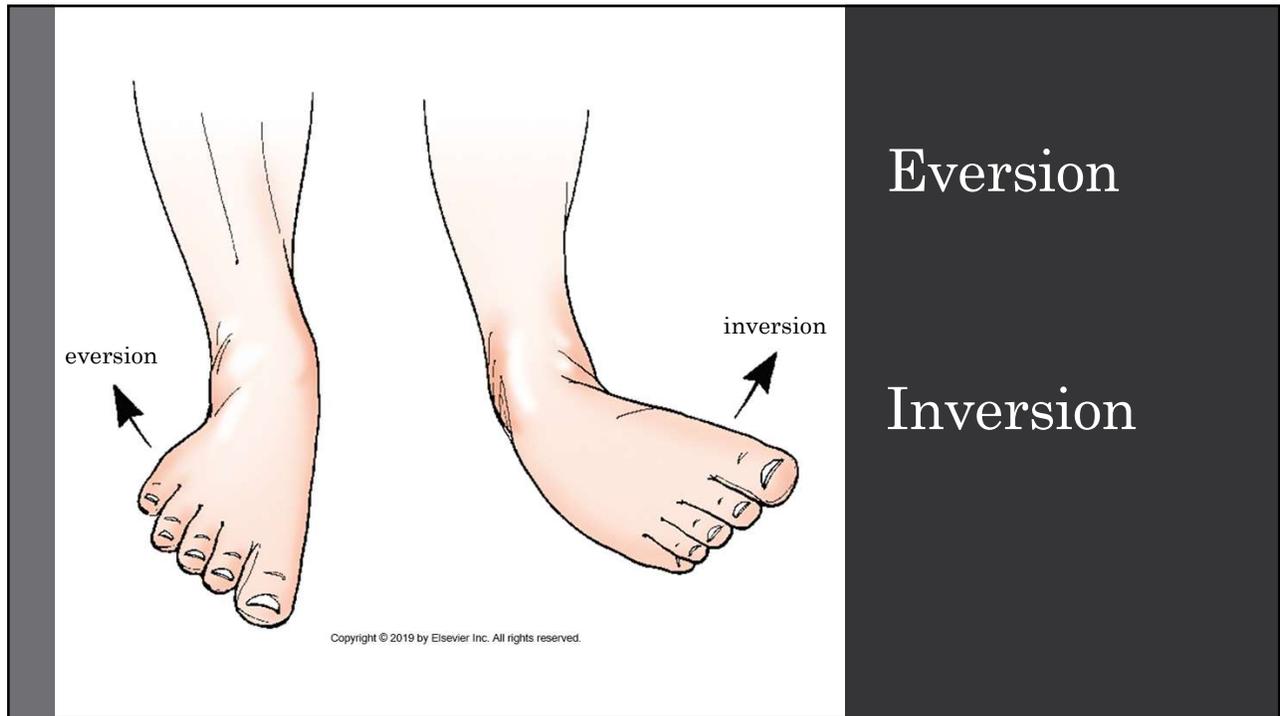
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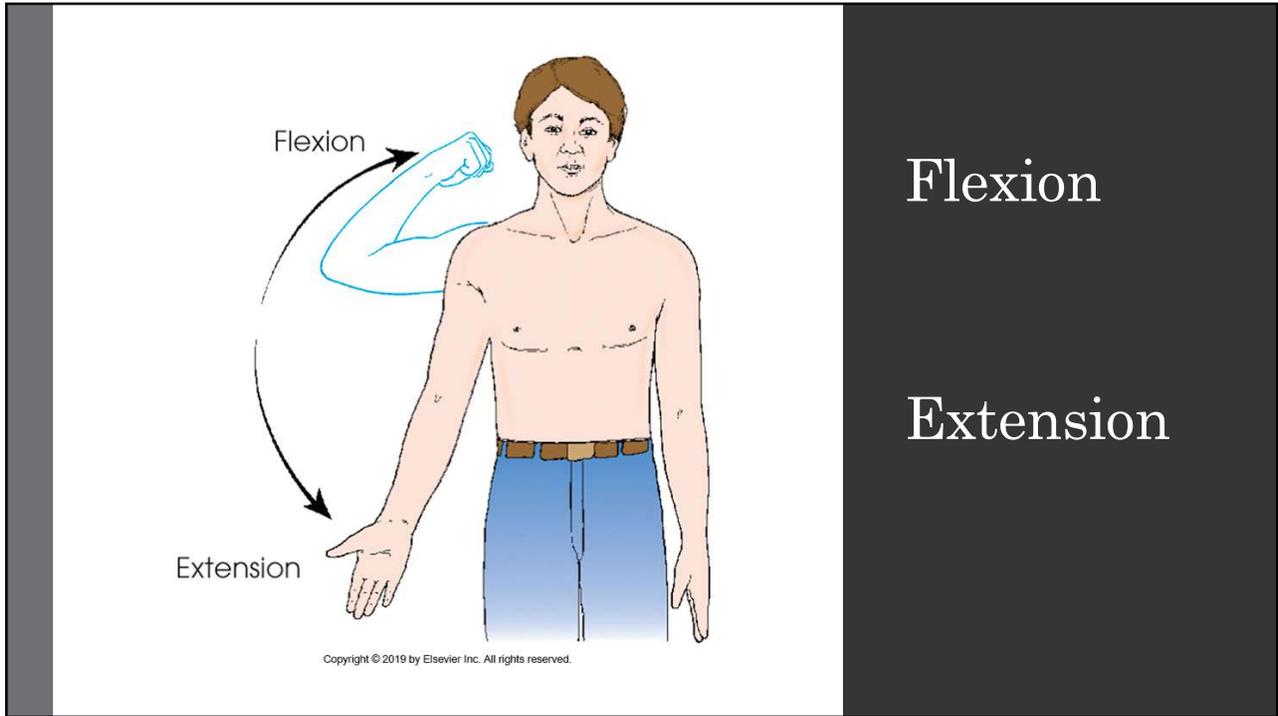
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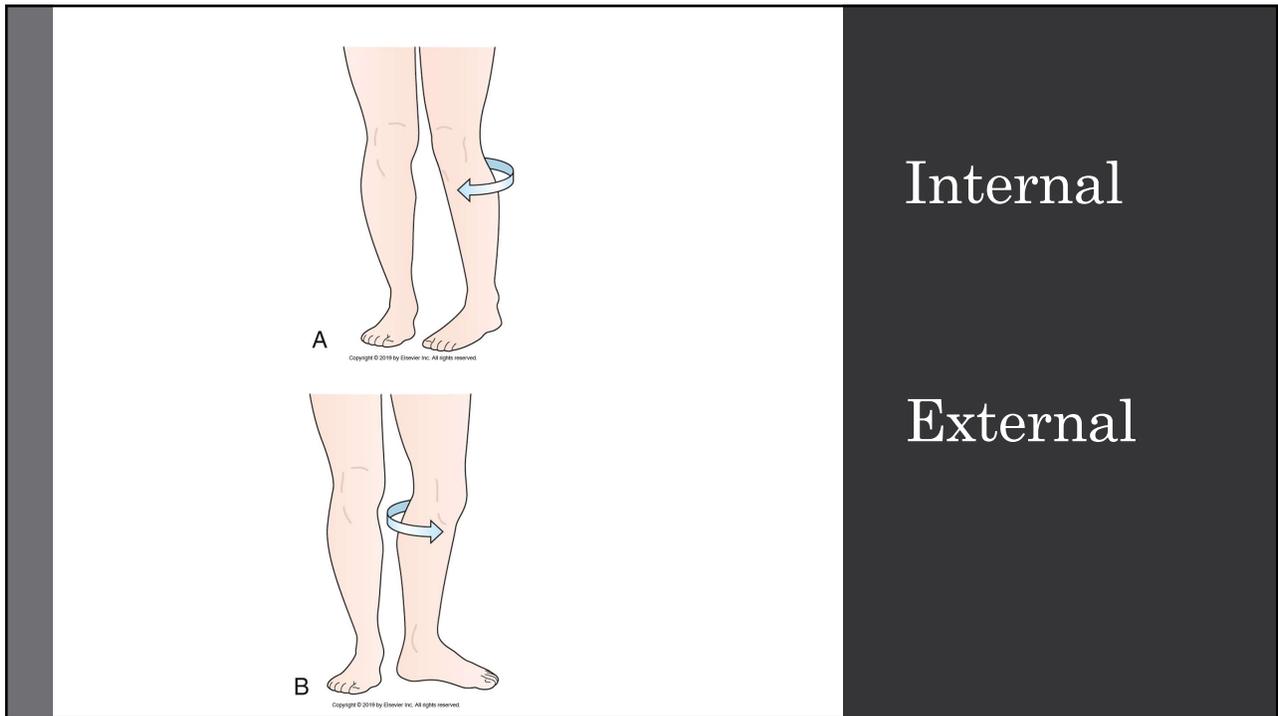
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Flexion

Extension

17



Internal

External

18

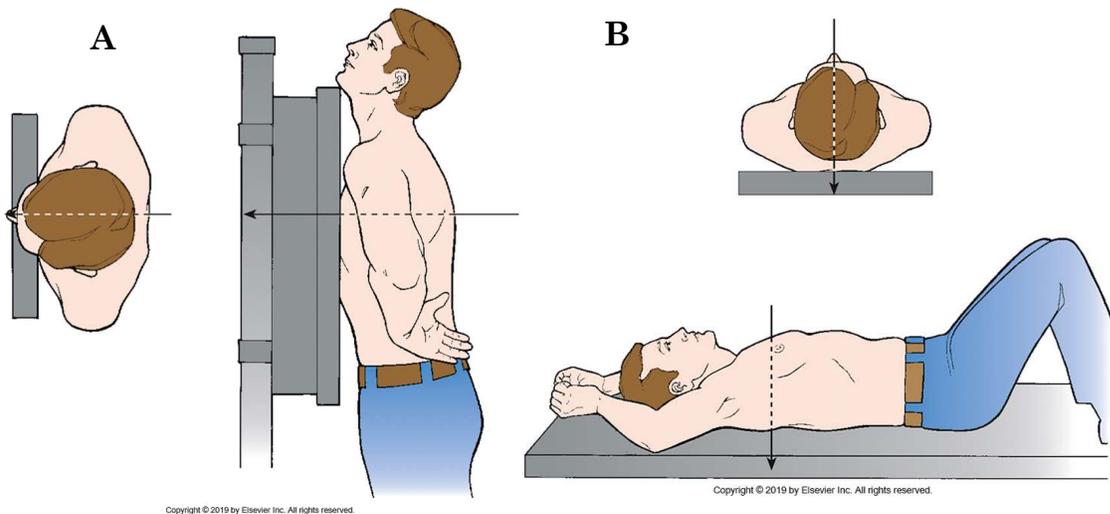
Projection

Described by the **path of the central ray** as it goes through the patient to the IR

- This is based on entrance and exit points in the body and the patient anatomic position
- Regardless of patient position (erect or recumbent)
 - Anteroposterior (AP)
 - Posteroanterior (PA)
 - Lateral Projection
 - Oblique Projection

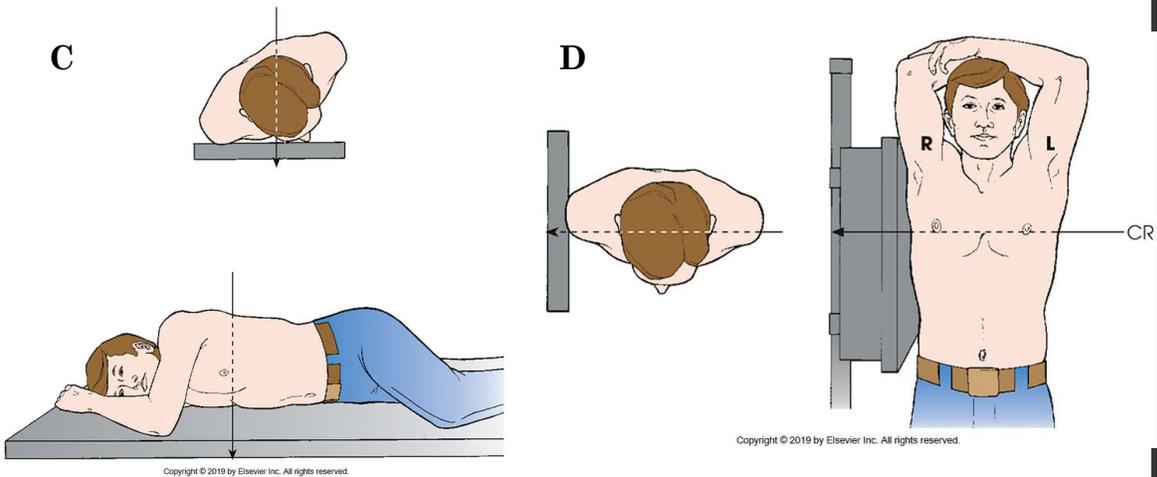
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Projection and Position



20

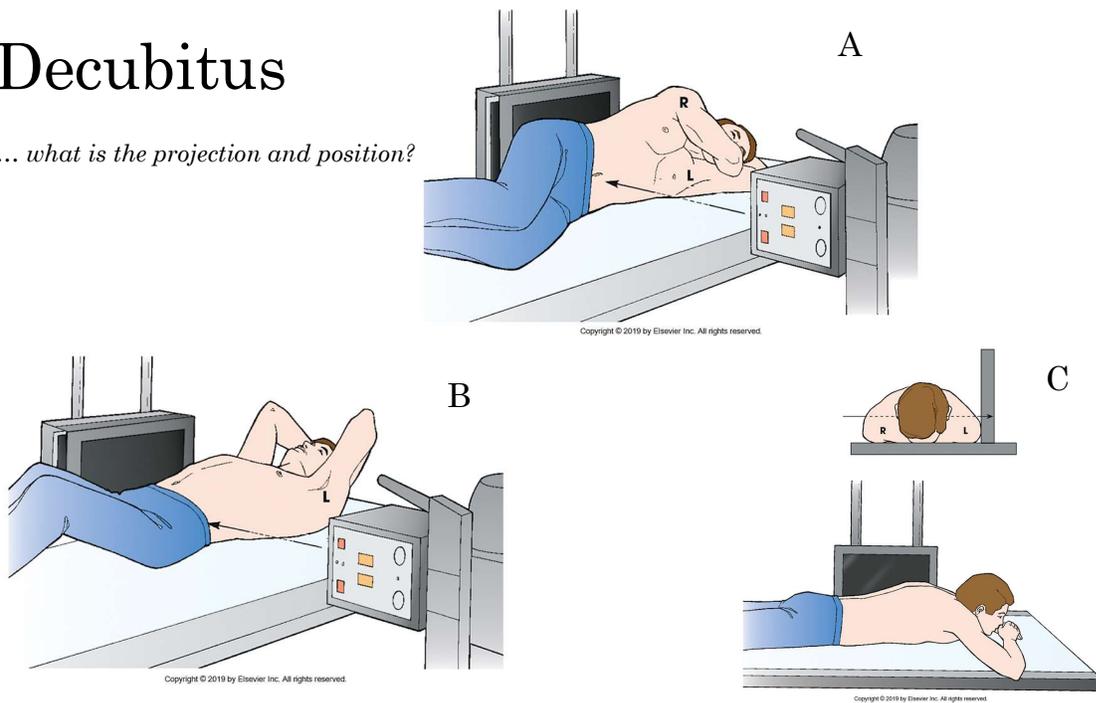
Projection and Position



21

Decubitus

... what is the projection and position?



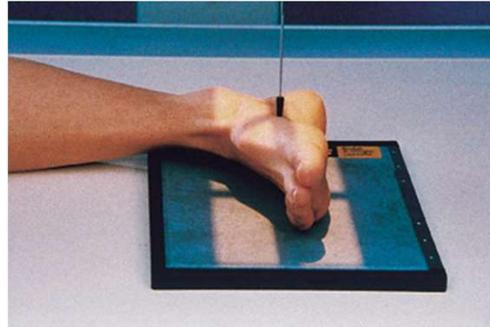
22

Extremities

A



B



23

MI 123: Clinical Seminar I

- ❖ **PROCEDURAL ROUTINE**
- ❖ **DOCUMENTATION/ORDERS**
- ❖ **HISTORY TAKING**
- ❖ **POLICIES:**
 - Patient Valuables
 - "Hand Off" Communication – Hall Pass
 - Imaging Pregnant Patients

24



Steps of a Procedural Routine

25

Types of patients

Private Out (OP) / Outpatient

- Can have a scheduled appointment or be a walk-in
 - Walk in - a patient that does not have an appointment
- Sent in from a physician's office with an order from a physician
- Could result in the need for a Verbal report / Image check

Inpatient

- Nursing Floors
- Intensive Care Units
 - SICU
 - MICU
 - NICU
 - PACU
- Pre-Admission Testing

Emergency Department



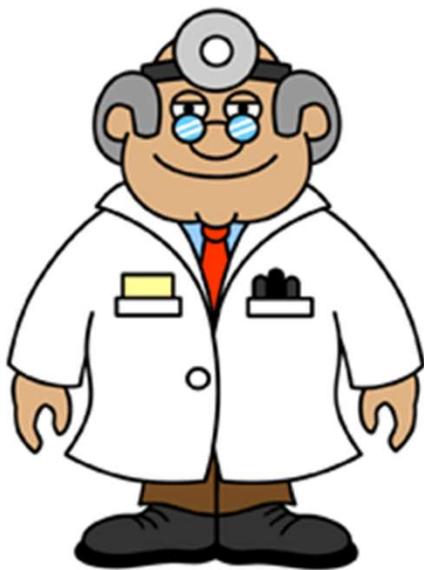
26

Procedural
Routine
Pre-
procedure

Review request/control sheet

- **Identify the radiographic procedure requested by the physician**
- **Review the order to evaluate for accuracy**

27



PHYSICIAN ORDER

- A physician orders a certain x-ray for a patient (left hand, right foot, lumbar spine, etc...)
- The physician will:
 - Order the radiographic procedure
 - The order may arrive with the patient (on an order slip/script), be faxed to the facility, or be electronic
 - RH – all radiographic orders expire 14 months after they are prescribed
 - Electronically ordered in EPIC
 - All Inpatients will have orders placed electronically in EPIC

28

Orders

- CPT Code- Current Procedural Terminology (AMA) CHEST PA & LATERAL [71020]
 - Codes that are assigned to every task and service that can be provided to a patient
 - Must be correct for insurance reimbursement/ payments
- ICD-10 Codes- International Statistical Classifications of Diseases
 - Alphanumeric assignments given to diagnosis and symptoms
 - Very detailed and specific

Table 1 – Comparisons of the Diagnosis Code Sets

ICD-9	ICD-10
3-5 characters in length	3-7 characters in length
Approximately 13,000 codes	Approximately 68,000 available codes
First digit may be alpha (E or V) or numeric; digits 2-5 are numeric	Digit 1 is alpha; digits 2 and 3 are numeric; digits 4-7 are alpha or numeric
Limited space for adding new codes	Flexible for adding new codes
Lacks detail	Very specific
Lacks laterality	Has laterality (i.e., codes identifying right vs. left)

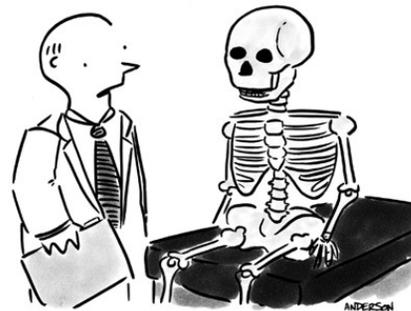
29

Requests

- A paper in which lists:
 - patient name, address, MRN, ordering doctor and phone number, study, codes for charging, numbers to track study in computer (accession number), list of most recent studies performed, etc...
 - Control sheet
 - Requisition
- Can be entered by clerical staff
 - Intake specialist
 - Unit clerks
- Always check the procedure on the request to the physician order to verify procedure
 - If there is a discrepancy, the physician's order is the correct of the two

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"Still, let's do an x-ray just to be sure."

30

Control Sheet vs Request

Reading Hospital
Department of Radiology Diagnostic Order Request

ACCESSION #: 12345678

MRN: 486223

Fox, Hannah

DOB: 8/2/1989, 31 year-old Female
ALLERGIES: Not on File
HEIGHT:
WEIGHT:
ROOM/REQ: O2:
METHOD OF TRANSPORT: ISOLATION:
ACCOUNT: 13000993032
CIN: 30002657465
Primary Insurance: IGA-INDEPENDENCE AETNA
Secondary Insurance:
THIS IS NOT YOUR IMAGING ORDER. YOU MUST VERIFY THE PROCEDURE ORDER IN THE ELECTRONIC MEDICAL RECORD.

PROCEDURE:
XR Nasal Bones Routine

PRIORITY: Routine
DIAGNOSIS: Nasal bone pain [882.2 (ICD-10-CM)]
REASON FOR EXAM: Injury
COMMENTS:
PREVIOUS EXAM: XR Foot
ORDERING MD: Jacob S Good
AUTHORIZING MD: Jacob S Good
PCP MD: Physician, No
Other Exams for Today:

RHSIS Medical Imaging Program
Skills Lab

Order Requisition

Name	MRN	DOB	Sex	Unit	Room/Bed	NAB
Boyer, Kyle	1234568	10/01/1977 (43)	F	EO	COS-005	1000002123457

XR Cervical Spine 1 View (Order #: 48276167)

Order Information

Order Date	Service	Start Date	Start Time	End Date
12/8/2020	Emergency Medicine	12/8/2020	0730	12/8/2020

Order Details

Frequency	Duration	Priority	Order Class
1 time imaging	1 occurrence	STAT	Ancillary Performed

Order Questions

Question	Answer	Comments
R/O	03 Fracture/subluxation	Keep pt supine until cleared

Sign Symptom: 03 Pain
Note: the selection of "Other" requires further explanation in the Additional Comments section

Order Provider Info

	Office Phone	Pager/beeper	Email
Ordering User	Frank B Moyes, DO 484-628-3637	--	--
Authorizing Provider	Frank B Moyes, DO 484-628-3637	--	--
Attending Provider	Frank B Moyes, DO 484-628-3637	--	--

RHSIS Medical Imaging Program
Skills Lab

31

Children's Clinic of Wyomissing
2240 Ridgewood Rd, Ste 100
Wyomissing, PA 19610-1286

Phone: 610-376-8691
Fax: 610-376-8745

Ordered By: Salvatore Anzalone, MD
Physician ID: NPID: 1871591180

Date: 02/15/2013
Patient Name: Sex: M
Birthdate: 12/03/1995 Patient ID: 123456
Address:
Home Tel: Day Tel:

Insurance: PA BLUE SHIELD Guarantor DOB:
Insured ID: OPB104378160001 Group #: 02536400
Guarantor: Rel to Guar: CHILD

Requisition: Outside Lab
Requisition ID:
Diagnostic Codes:
786.5 CHEST PAIN
CHEST PA & LATERAL [71020]

Salvatore Anzalone

STAT: Fasting: printed 02/15/2013 9:38:24 AM
Call Report: 610-376-8691

Example:
**Outpatient/Written
order= Transcribed**

32

CT Abd / Pelvis W Contrast (Order 88388120)

CT ABD / PELVIS W CONTRAST [88388120]

Electronically signed by: **Finn Adamite, MD on 05/06/19 1156**
 This order may be acted on in another encounter.
 Ordering user: Finn Adamite, MD 05/06/19 1156 Ordering provider: Finn Adamite, MD
 Authorized by: Finn Adamite, MD Ordering mode: Standard

Status: Active

Questionnaire

Question	Answer
Is a verbal report needed?	No

Order details

Screening Form

General Information

Patient Name: Kix, Jill	MRN: 3018053
Date of Birth: 9/4/1990	Home Phone: 111-111-1111
Legal Sex: Female	

Procedure	Ordering Provider	Authorizing Provider	Appointment Information
CT ABD / PELVIS W CONTRAST	Finn Adamite, MD	Finn Adamite, MD	5/6/2019 3:30 PM RAD CT A RH RAD CT

Screening Form Questions

No questions have been answered for this form.

*Example: EPIC
Inpatient Order*

Reason for Exam

Abd pain, appendicitis suspected

Priority: Routine

Diagnosis

Rheumatoid osteoperiostitis

Codes

ICD-10-CM: M86.9

ICD-9-CM: 730.20

Comments

33

Military Time

- Military time is based off a 24-hour clock
- Some healthcare facilities utilize military time in documentation



24-Hour Clock (Military Time) Conversion Chart

TIME	24-HOUR TIME	TIME	24-HOUR TIME
12:01 AM	0001	12:01 PM	1201
12:05 AM	0005	12:05 PM	1205
12:30 AM	0030	12:30 PM	1230
12:45 AM	0045	12:45 PM	1245
1:00 AM	0100	1:00 PM	1300
2:00 AM	0200	2:00 PM	1400
3:00 AM	0300	3:00 PM	1500
4:00 AM	0400	4:00 PM	1600
5:00 AM	0500	5:00 PM	1700
6:00 AM	0600	6:00 PM	1800
7:00 AM	0700	7:00 PM	1900
8:00 AM	0800	8:00 PM	2000
9:00 AM	0900	9:00 PM	2100
10:00 AM	1000	10:00 PM	2200
11:00 AM	1100	11:00 PM	2300
12:00 NOON	1200	12:00 MIDNIGHT	2400

34

Procedural Routine Pre-Procedure

Equipment preparation

- Radiographic room is prepared, with necessary supplies in place before the patient arrives in the room (Sheet is placed on the table, shield, sponges, etc.)
- X-Ray tube in position with applicable equipment readily available

Operating console preparation:

- Verify correct selection of patient name/MRN/accession #
- Enter HS# if applicable
- Select proper study/view within the operation console
- Select and verify appropriate kVp, mA and time/mAs, and ionization chambers (as necessary)

35

Procedural Routine Pre-Procedure

Retrieve patient from waiting area

- Introduce self
- Verify patient ID
- Address footwear and question pain meds/stability if applicable

The patient is properly gowned with all unnecessary/interfering clothing, jewelry, dentures, etc. removed

36

Procedural Routine Procedure

- **Escort the patient safely into the room** – Evaluation of medication/footwear, Patient Valuables (Review policy); Hand-Off Communication (Review policy)
- **Introduce yourself to the patient as a student as well as introduction of your technologist/Faculty**
 - Permission to participate in study
- **Re-confirm patient identification** – 2 patient identifiers



37

Procedural Routine Procedure

- **Obtain LMP/Pregnancy Status** – (Review policy)
 - Imaging Pregnant Patient Policy
 - Why? Importance?
 - 8-55 years of age
 - 2-part question
 - **First** day of last menstrual period/cycle?
 - Assess for chance of pregnancy – “Is there any chance of pregnancy?”



38

Obtain History

Sacred Seven

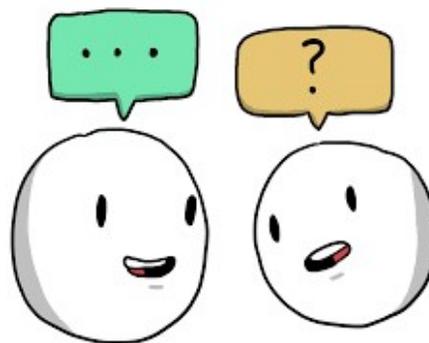


39

Effective Histories

- Open ended questions
- Probing question to focus on details
- Encourage elaboration
- Give the patient time to collect their thoughts
- Repetition or rewording
- Summarize to verify history

*Includes subjective (perceived) and objective (signs seen) data



40

Procedural Routine Procedure

- **Procedure explained to the patient**
- **Take precautionary measures to ensure patient safety** - application of brakes, footwear
- **Radiation protection practices applied** – appropriate gonadal shielding based on path of central ray
- **Assistance provided to patient during positioning**
- **Collimation appropriate for view**
- **Correctly manipulate equipment to obtain designated centering/projection**
- **Communicate breathing or movement instructions**



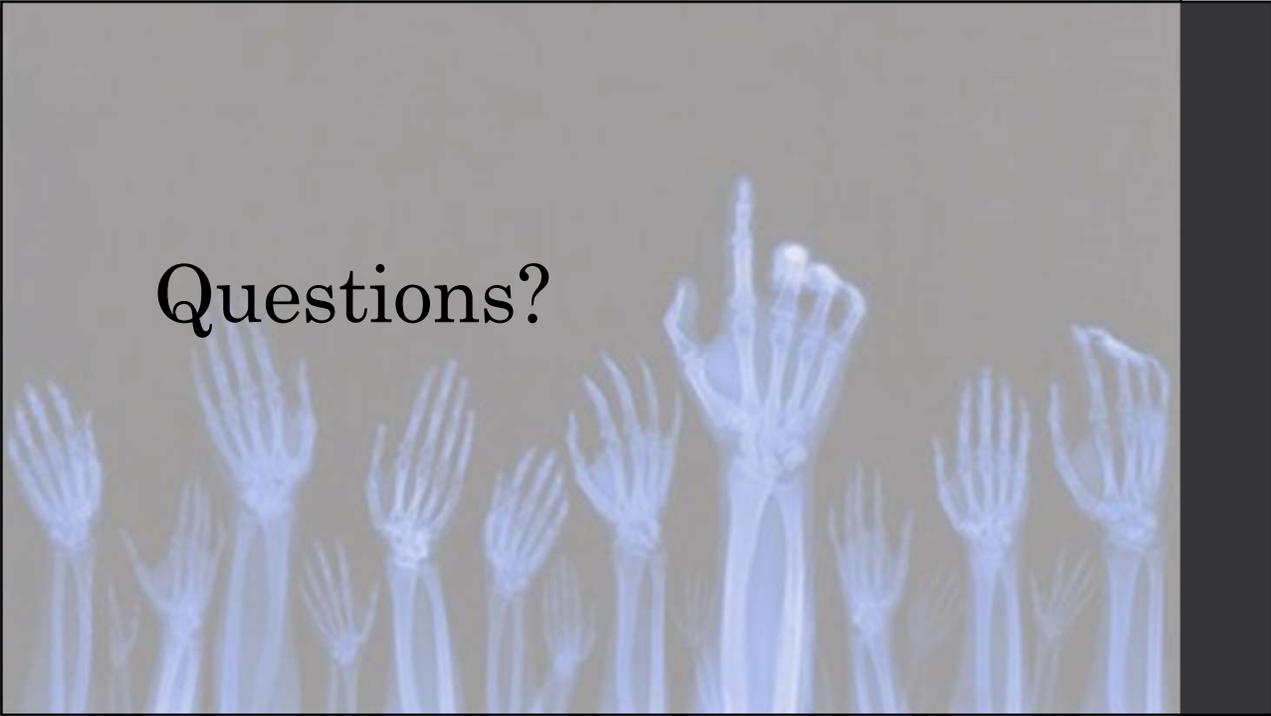
41

Procedural Routine Post-Procedure

- **Correctly dismiss patient from procedure**
 - Verbal Report/Image Check
- **Verify images sent to PACS with technologist approval**
- **Complete EPIC documentation**



42



43