



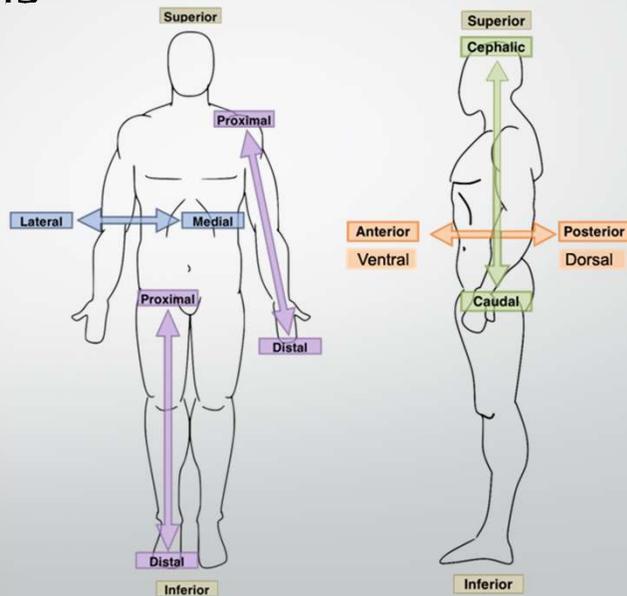
MI 123: Clinical Seminar I

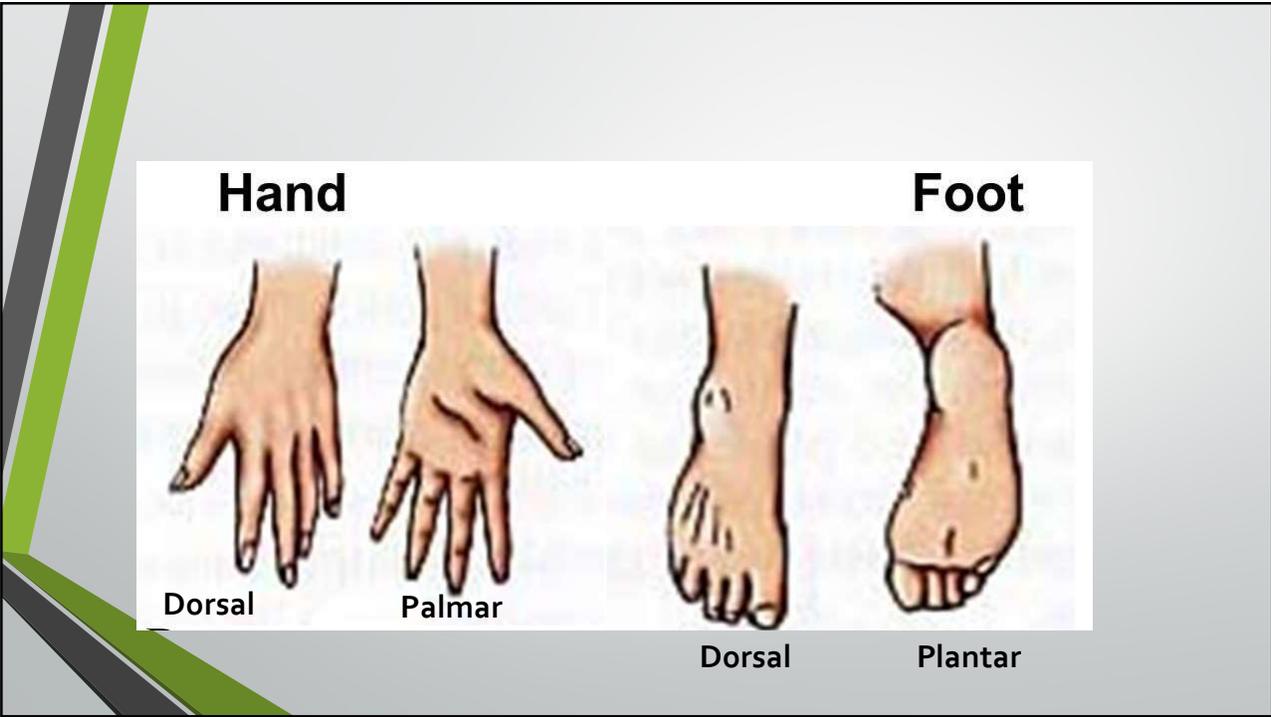
Lecture #2

- Standard Terms

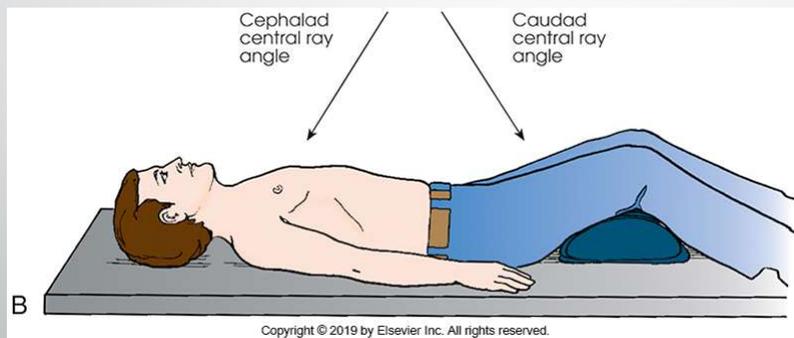
Standard Terms

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





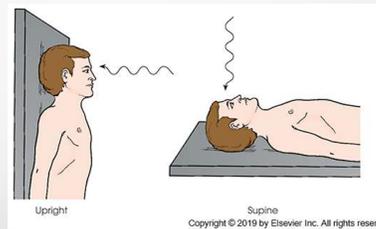
Caudad Cephalad

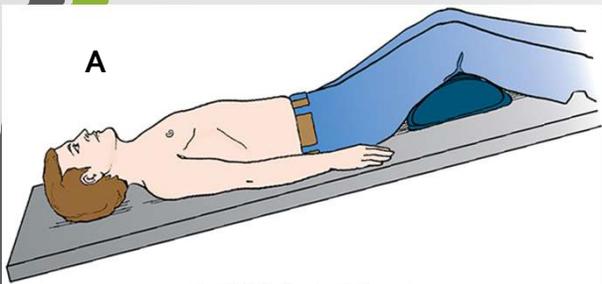


Positions

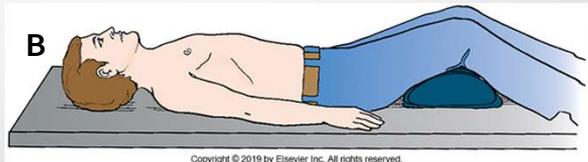
Identification of the overall posture of the patient or the general body position

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

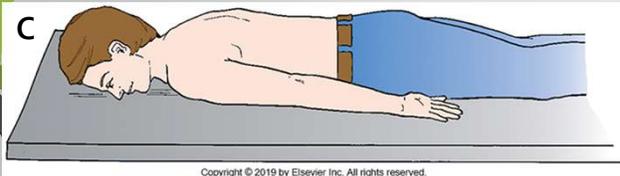




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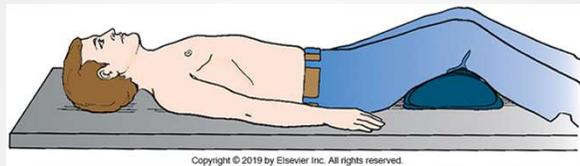


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Radiographic Body Positions

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

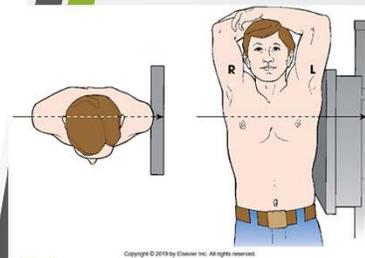
- Anterior
- Posterior
- Lordotic



- Lateral
- Decubitus
- Oblique

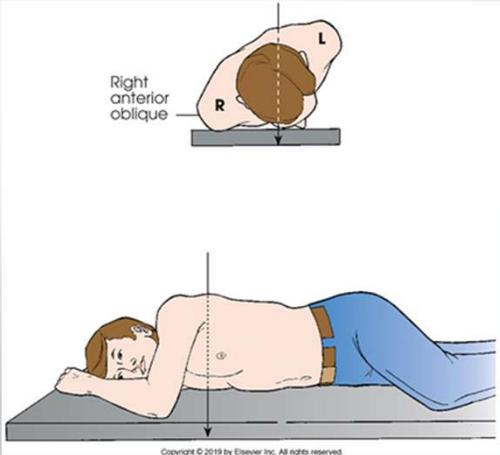
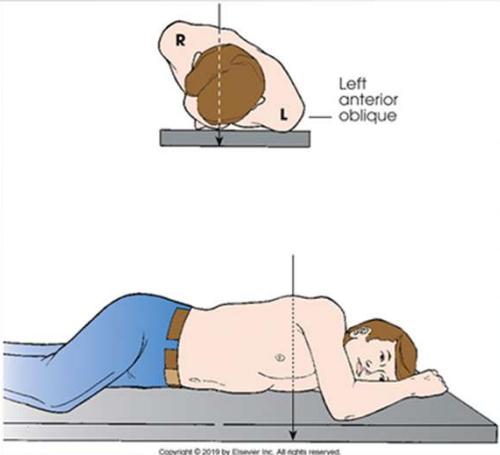


- Lateral
 - Further described as a right or left lateral depending on side against the image receptor
- Oblique
 - Further specified according to patient's relationship to the image receptor.
 - Right Posterior Oblique (RPO)
 - Left Posterior Oblique (LPO)
 - Right Anterior Oblique (RAO)
 - Left Anterior Oblique (LAO)

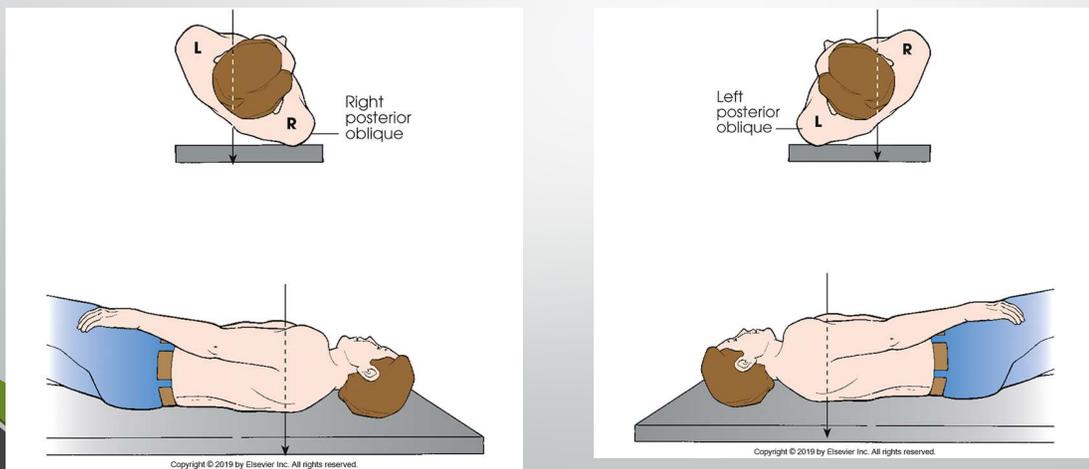


Radiographic Body Positions

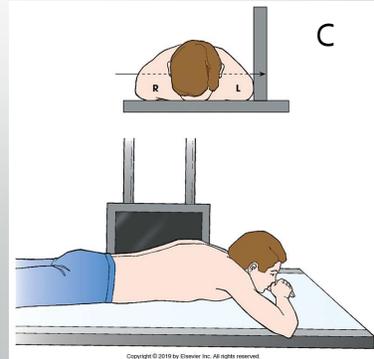
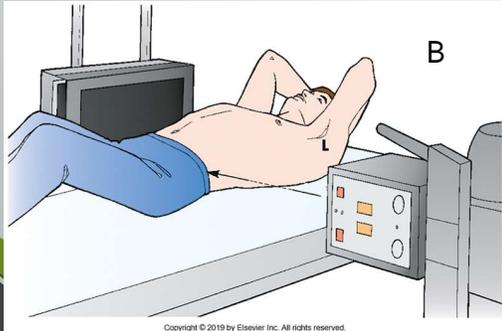
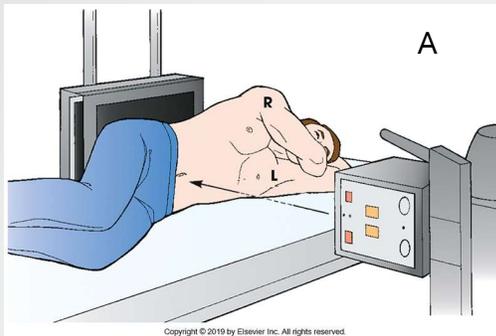
RAO – Right Anterior Oblique
LAO – Left Anterior Oblique



RPO – Right Posterior Oblique LPO – Left Posterior Oblique



Decubitus



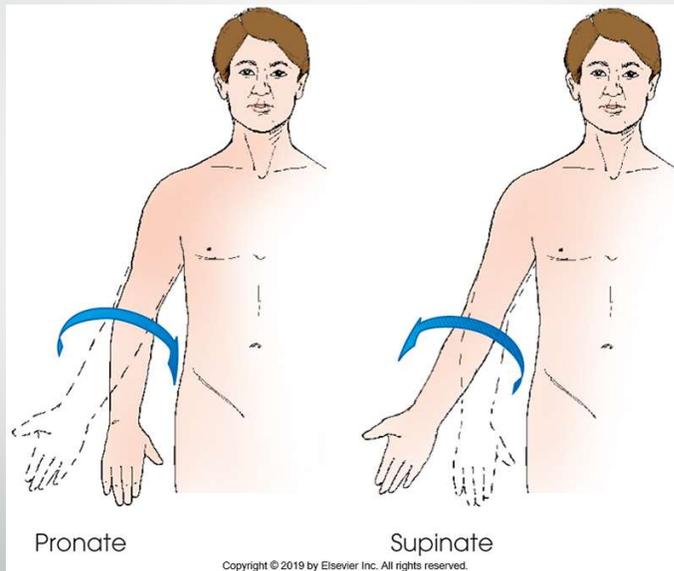
Body Movement Terminology

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

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

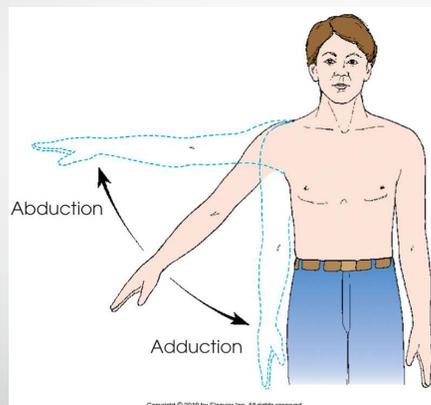
Supinate

Pronate



Abduction

Adduction



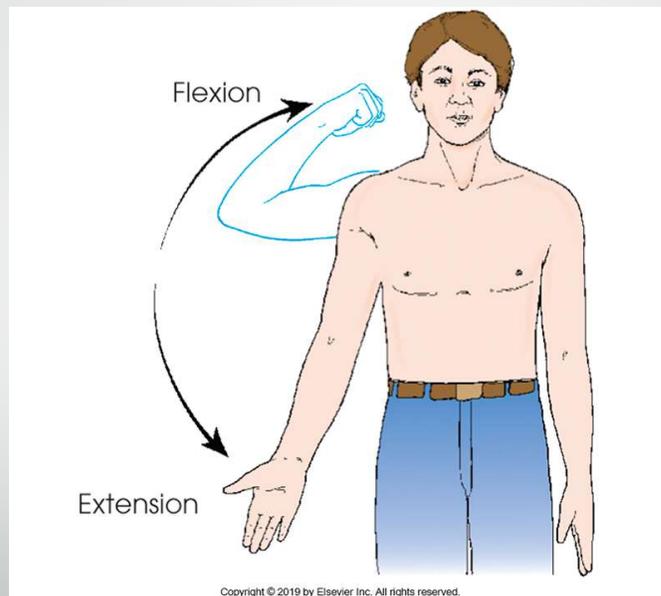
Eversion

Inversion

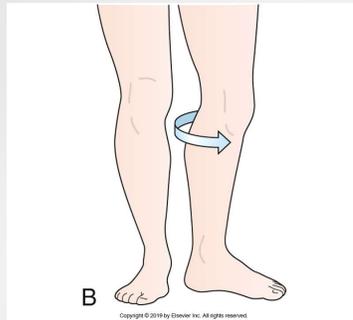


Extension

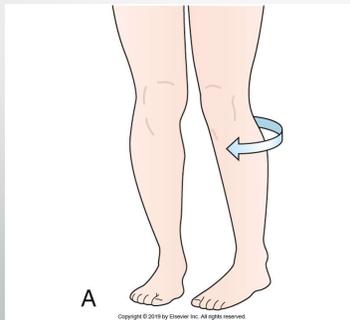
Flexion



External



Internal

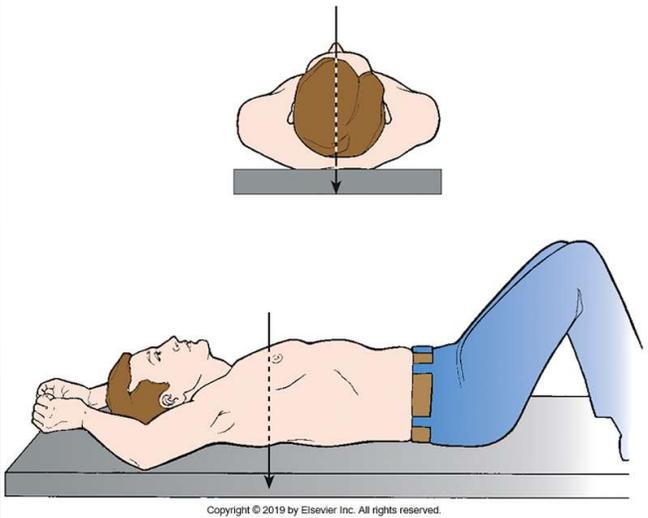
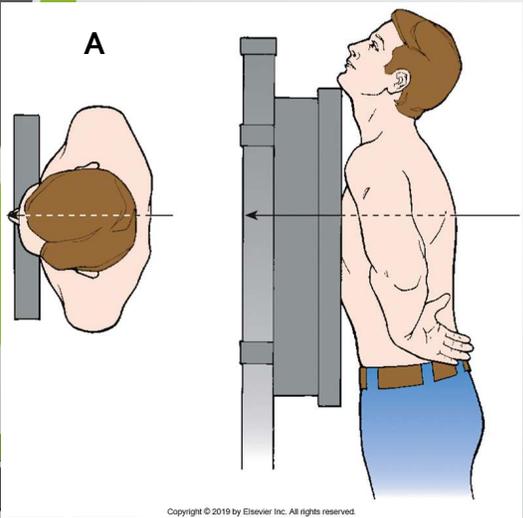


Projection

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

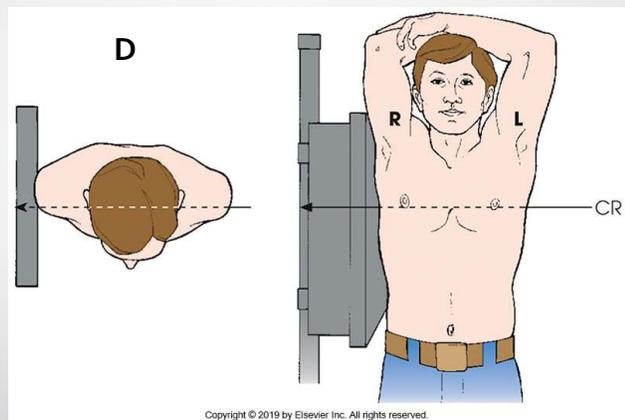
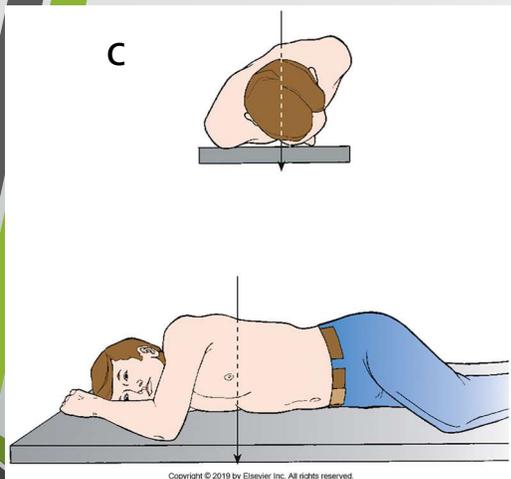
- This is based on entrance and exit points in the body and the patient anatomic position
- Regardless of patient position (erect or recumbent)
 - Anteroposterior (AP)
 - Posteroanterior (PA)
 - Lateral Projection
 - Oblique Projection

Projection



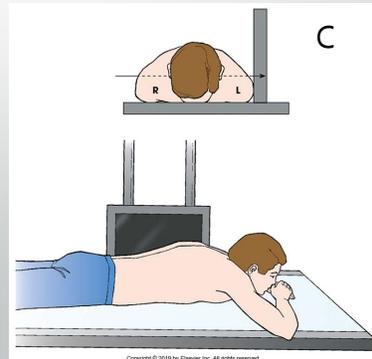
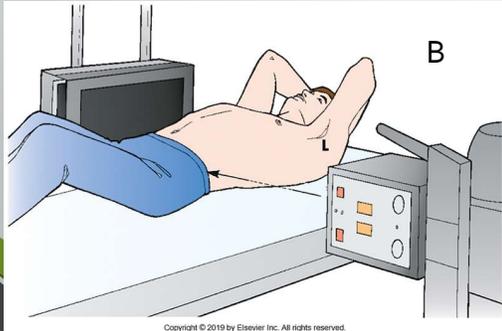
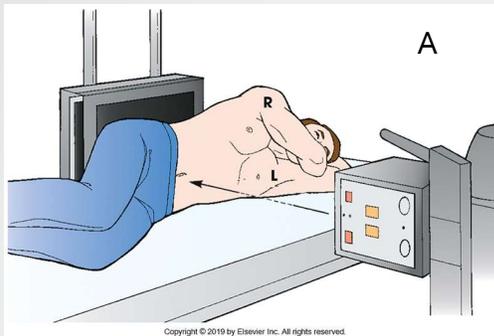
...But lets also talk about the Position of the patient!!

Projection and Position

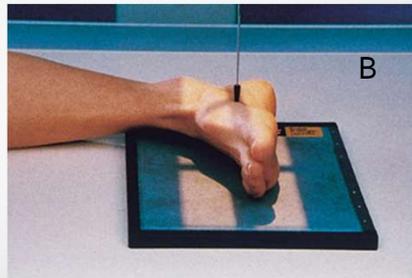
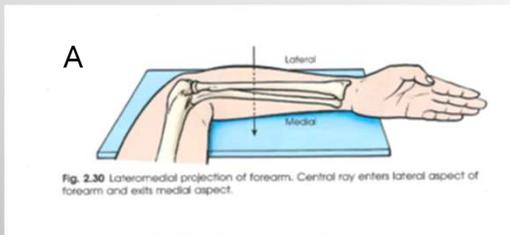


Decubitus

... what is the projection and position?



Extremity



MI 123: CLINICAL SEMINAR I

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



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



PROCEDURAL ROUTINE PRE-PROCEDURE

Review request/control sheet

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

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



ORDERS

CHEST PA & LATERAL [71020]

- CPT Code- Current Procedural Terminology (AMA)
 - 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)

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

CONTROL SHEET VS REQUEST

Reading Hospital
Department of Radiology Diagnostic Order Request

ACCESSION #
12345678

FOX, Hannah MRN: 486273

DOB: 8/1/1989 11 years old Female
ALLERGIES: Not on File
HEIGHT:
WEIGHT:
ROOM/BED: O2:
METHOD OF TRANSPORT: ISOLATION:
ACCOUNT: 10000953032
CIN: 30002657465
Primary Insurance: IGV-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

ACCESSION #:
12320128

PRIORITY: Routine
DIAGNOSIS: Nasal bone pain [R82.2 (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:

BHSIS Medical Imaging Program
Sella Lab

Order Requisition

Name	MRN	DOB	Sex	Unit	Room/Bed	PHS
Royer, Kylee	1234568	10/9/1977 (43)	F	ED	005-005	100000123457

XR Cervical Spine 1 View (Order #: 48276167)

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

Order Information

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

Order Details

Question	Answer	Comment
R/O	D3 fracture/subluxation	Keep gt supine until cleared

Sign Symptom: D3 Pain
Note the selection of "Other" requires further explanation in the Additional Comments section

Order Provider Info

Ordering User	Office	Phone	Pager/beeper	Email
Frank B Moyet, DO	484-628-3637	--	--	--
Authorizing Provider	Frank B Moyet, DO	484-628-3697	--	--
Attending Provider	Frank B Moyet, DO	484-628-3637	--	--

BHSIS Medical Imaging Program
Sella Lab

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	Sex: M
Patient Name:	Patient ID: 123456
Birthdate: 12/03/1995	
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]	
	
STAT: <input checked="" type="checkbox"/> Fasting: <input type="checkbox"/>	printed 02/15/2013 9:38:24 AM
Call Dept: 610-376-8691	

EXAMPLE:
OUTPATIENT/Written
ORDER

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.

Reason for Exam

Abd pain, appendicitis suspected

Priority: Routine

Diagnosis

Rheumatoid osteoperiostitis

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

EXAMPLE:
EPIC
INPATIENT
ORDER

MILITARY TIME

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



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

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)

PROCEDURAL ROUTINE PRE-PROCEDURE

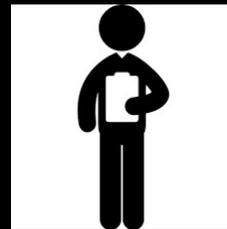
Retrieve patient from waiting area

- 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

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
 - **Imaging Minors**
- **Re-confirm patient identification** – 2 patient identifiers



PROCEDURAL ROUTINE PROCEDURE

- ***Obtain LMP/Pregnancy Status*** – (Review policy)
 - **Imaging Pregnant Patient Policy**
 - Why? Importance?
 - 11-55 years of age
 - 2 part question
 - **First** day of last menstrual period/cycle?
 - Assess for chance of pregnancy – “Is there any chance of pregnancy?”



OBTAIN HISTORY

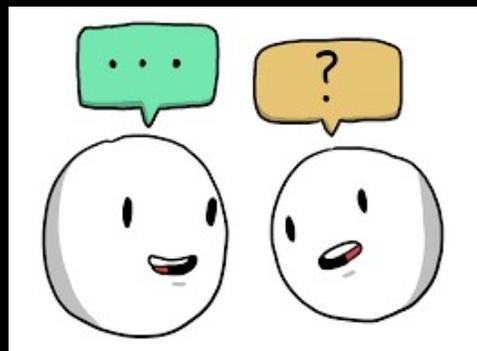
Sacred seven

Localization	Precise area of interest
Chronology (period of time)	Duration, frequency, course
Quality	Character of symptom
Severity	Intensity, quantity, or extent
Onset	Event that caused the symptom
Aggravating or alleviating factors	Helps or hinders symptom
Associated manifestations	Other symptoms accompany chief complaint

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



PROCEDURAL ROUTINE PROCEDURE

- Procedure explained to the patient
- Take precautionary measures to ensure patient safety - application of brakes, footwear, hall pass reviewed
- 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



PROCEDURAL ROUTINE

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



