

<h2>Lecture # 4: Pediatric, Geriatric, and Trauma Considerations</h2>		
	MI 123	

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<h2>Pediatrics</h2>	
Infant to 17 years old	

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<h3>RT must:</h3>		
<ul style="list-style-type: none">• Be sensitive and effective• Use age-appropriate methods of communication• Establish a rapport and acquaint child to new environment• Respect modesty		

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<h2>Parents or Guardians</h2>	
<ul style="list-style-type: none"> • Provide them with an explanation • Enlist their cooperation • Explain your expectations of the guardian during the exam 	

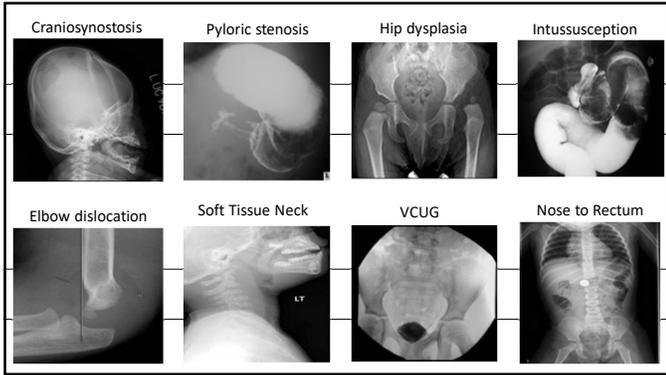
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<p>Procedures Pediatrics May Come In For:</p>	Chest
	Nose to Rectum
	Pelvis/hips
	Skull
	Extremities
	Bone Age
	Scoliosis
	Bone Survey
	Soft tissue Neck
	Fluoro procedures

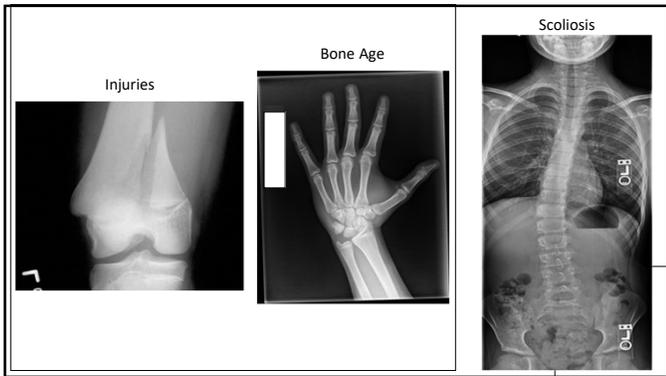
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<p>Diagnosis made from Radiographic Procedures:</p>	Pyloric stenosis
	Craniosynostosis
	Hip dysplasia
	Intussusception
	Urinary tract infections / Vesicoureteral reflux
	Enlarged adenoids/tonsils
	Child Abuse
	Physical trauma
	Various communicable viruses
	Nursemaids' elbow / dislocation
	Scoliosis

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What to do if.....		
<ul style="list-style-type: none"> •The child refuses to follow directions: <ul style="list-style-type: none"> •You may need to ask adult to leave the room •Explain the doctor or parents want the exam to be done •Repeat the directions and proceed •Remain nonjudgmental 		

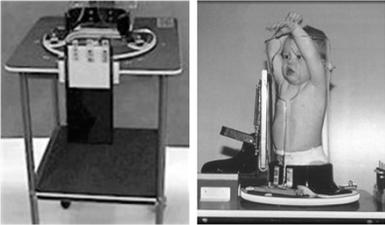
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Pediatric Immobilization

- Assists with holding still or positioning
- is NOT a method of punishment
- Made need to use creativity
- Provides patient safety

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Pigg o Stat

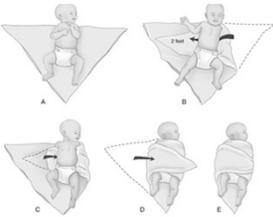


- Used during upright chest and abdominal radiography
- Inform parent of the use of the immobilizer
 - Reduces anxiety with observing child in the device
- Ask the parent if they have any questions

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Sheet Immobilizer

- Fold a large sheet into any size or fashion
- Known as swaddling, mummification, or bunny method
- Used for Soft Tissue Neck Imaging



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Octostop

- Octagonal metal frame attached to end of board
- Velcro straps for head, torso and limbs
- Patient can be rotated 360°
- Useful for Fluoroscopy exams
- Can be used on children up to 12 months of age

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Pediatric: Image Gently Campaign

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- Founded in 2007 by Alliance of Radiation Safety in Pediatric Imaging, the American College of Radiology (ACR), the American Association of Physicists in Medicine (AAPM), and the American Society of Radiologic Technologists
- Goal: ensure that EVERY tech selects and uses the appropriate exposures when performing imaging and interventional procedures in children as safely as possible to reduce radiation dose.

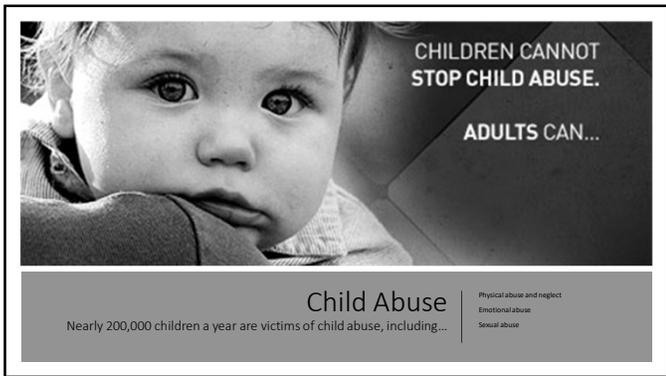


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THE 3 R'S OF
REPORTING CHILD ABUSE

RECOGNIZE

RESPOND

REPORT

Radiographer's Role in Reporting Child Abuse:

- Radiographers have an ethical and legal obligation to become adept at the recognition of child abuse
 - Bruising, burns, or possible fractures that seem out of proportion to the report of how the injury occurred may be reasons to suspect abuse

Examples:

- The child's version of what happened is different from the parent's story
- Child states they have not eaten for a long period of time

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THE 3 R'S OF REPORTING CHILD ABUSE

RECOGNIZE

RESPOND

REPORT

- If your patient is here for imaging and you suspect child abuse, inform your supervising technologist or area supervisor
 - The referring physician may be contacted and additional images might be ordered
- Remain professional with the parent or caregiver at all times
 - If the physician orders additional images, you do not need to specifically tell the parents why. Simply state "the dr. would like more images"

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Often children misjudge what is a safe action and suffer accidents because of their own mistaken judgment



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Geriatrics

Fear of hospitalization is greatest in the elderly

- On average, 40% of the elderly people admitted to the hospital every year for a fall will not return to independent living

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Geriatrics

- Persons 65 and older represent the fastest growing age group in America
 - 65 is an arbitrary age that designated for convenience as the age at which a person is eligible for Medicare benefits, Social Security benefits, and retirement
- Aging in humans refers to a multidimensional process of physical, psychological, and social change
- The elderly undergo almost 2.5 times more radiographic procedures than adults under 65 yrs of age



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Common biological changes of aging:



- Arthritis
- Atrophied muscle mass
- Cataracts
- Declined cardiac function
- Decreased GI motility
- Loss of skin elasticity
- Osteoporosis
- Slowing of psychomotor processing and responses
- Decline in sensory function

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Physical Health Concerns:

- Arthritis*
- COPD*
- Hypertension
- Osteoporosis
- Diabetes mellitus
- Pulmonary artery disease
- Cancer
- Parkinson's Disease

Mental Health Concerns:

- Dementia
- Dependency
- Depression
- Fear of death
- Frustration with physical changes
- Alzheimer's

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<p>Procedures Geriatrics may come in for...</p>	Chest
	Abdomen
	Knee
	Hip
	Spine
	Fluoro Procedures
	Bone Surveys

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<p>Abdomen</p> 	<p>Food Study</p> 	<p>Barium Enema</p> 
<p>Chest</p> 	<p>Knee Replacement</p> 	<p>Hip Replacement</p> 

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<p>Positioning Considerations:</p>	
<ol style="list-style-type: none"> 1. Maintain the patient's body temp with blankets 2. Transfer and position carefully to avoid causing skin tears 3. Allow a supine patient to sit for a bit before standing up to avoid postural hypotension 4. Don't make assumptions about what your patient, ask them instead 5. Have sponges and pillows available for the patient's head up or to elevate their knees 6. Never leave an elderly patient alone in the x-ray room 	<div style="border: 1px solid black; height: 40px; width: 100%;"></div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div>

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Must develop cultural knowledge, awareness and sensitivity when imaging elderly

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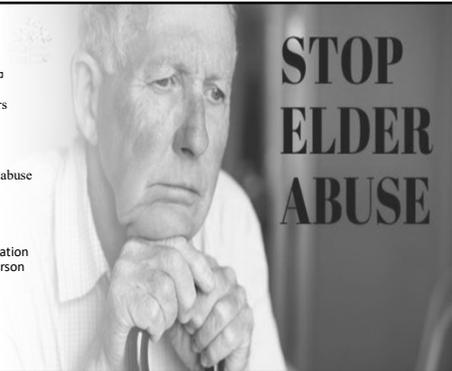
IMAGE WISELY®
Radiation Safety in Adult Medical Imaging

Geriatric: Image Wisely Campaign

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Elder Abuse

- Affects 1 out of every 20 seniors through...
 - Physical abuse
 - Sexual abuse
 - Emotional / Psychological abuse
 - Isolation / Neglect
 - Financial abuse
- It is your ethical and legal obligation to report elder abuse to the person at your institution who makes inquiries



STOP ELDER ABUSE

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Trauma Considerations

Trauma – “a deeply distressing or disturbing experience” or physical injury

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RT Role		
<ul style="list-style-type: none"> • Make sure the patient is comfortable while in your care • Never ignore a patient’s complaint of pain • Decide the most logical and least painful ways to perform the study • Educate the patient about the study • Communicate • Stop the procedure if there is change in condition • Confer with nurse or physician about the patient receiving pain meds • HIPAA 		

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<h3>General Guidelines for Trauma Patient Care:</h3>	<div data-bbox="402 1522 760 1556"><p><u>Do not</u> remove dressings or splints</p></div> <div data-bbox="402 1570 760 1604"><p><u>Do not</u> move patients who are on a stretcher or backboard until ordered to do so by the physician in charge of the patient</p></div> <div data-bbox="402 1619 760 1652"><p><u>Do not</u> disturb impaled objects. Support them so that they do not move as you image the patient.</p></div> <div data-bbox="402 1667 760 1701"><p><u>Do not</u> remove pneumatic antishock garments or CPR compression vests.</p></div> <div data-bbox="402 1715 760 1749"><p><u>Do</u> have an emesis basin ready for use.</p></div> <div data-bbox="402 1764 760 1797"><p><u>Do</u> work quickly, efficiently, and accurately to minimize repeat images.</p></div>
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<h3>Trauma Procedure Guidelines:</h3>			
<ul style="list-style-type: none"> • Assess the situation and develop an action plan for the imaging procedure. <ul style="list-style-type: none"> • Determine patient mobility and explain the procedure to the patient. • Predetermine equipment and accessories needed for the procedure. • Take at least two radiographs at 90 degrees angles to one another for each body part. • Make sure that the central ray and image receptor alignment approaches routine positioning applications, adapting to the patient's condition. • Include all anatomy of interest • For long bone radiography, ensure entire bone is included, and support both joints • Provide protective apparel for anyone who needs to be in the room caring for the injured patient 			

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Trauma Immobilizations	
Do not remove any immobilizers from ED trauma alert patient without Physician/RN OK	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">  <ul style="list-style-type: none"> • Cervical Collar <ul style="list-style-type: none"> • Prevents life-threatening movement • Must remain on while images are taken • Need doctor's approval to remove </div> <div style="width: 45%;"> <h4 style="margin-top: 0;">Fracture Immobilizations</h4> <ul style="list-style-type: none"> • Traction • Traction splint • Air splints / casts • Leg & arm immobilizers • Back brace • Fiberglass cast </div> </div>	<div style="display: flex; justify-content: space-around;">    </div> <ul style="list-style-type: none"> • Backboard <ul style="list-style-type: none"> • Supports entire body • Usually radio-translucent • Cassette can be placed directly below backboard • Can be used to move patient onto x-ray table

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<div style="border: 2px solid black; padding: 10px; margin: 0 auto; width: 80%;"> <h2 style="margin: 0;">STANDARD PRECAUTIONS</h2> <p style="margin: 5px 0 0 0;">1. Hand Hygiene 2. Use Personal Protective Equipment (PPE)</p> <div style="display: flex; justify-content: space-around; align-items: center; margin: 5px 0 0 0;"> <div style="text-align: center;"> <small>Gloves</small></div> <div style="text-align: center;"> <small>Gowns</small></div> <div style="text-align: center;"> <small>Masks</small></div> <div style="text-align: center;"> <small>Eye Protection</small></div> <div style="text-align: center;"> <small>Face Shields</small></div> </div> <p style="margin-top: 10px; font-weight: bold;">Always follow OSHA - Maintain Standard Precautions!</p> </div>
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<h2>Additional Trauma Info</h2>	

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<h2>Reading Hospital is a Level I Trauma Center</h2>	
<ul style="list-style-type: none">• Cares for complex injuries with specialty and subspecialty care available 24/7.• All staff (including imaging professionals and specialty doctors) are immediately available to the trauma patient 24/7• Emergency-X-Ray Equipment in RH Trauma Bay:<ul style="list-style-type: none">• Trauma beds with IR holders• Portable (mobile) x-ray• CT• Ultrasound	

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<h3>Trauma Levels</h3> <ul style="list-style-type: none">• Trauma Alert• Trauma Response• Tier 3

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