

UNIT TEN
INSTRUCTIONAL OBJECTIVES FOR RADIOLOGY

I. Cognitive Objectives

The resident should be able to demonstrate the knowledge of:

A. Combat /Trauma Radiology

1. High/low velocity weapon injuries	Academic Year			
Implementation	19	19	19	19
Lecture: Staff radiologist (1 hour) – every other year	MO/DA	MO/DA	MO/DA	MO/DA
2. Explosive and blast injuries	Academic Year			
Implementation	19	19	19	19
Lecture annually during CMRT by Video or Red Flag cadre member	MO/DA	MO/DA	MO/DA	MO/DA
3. Radiological evaluation of head injuries sustained in combat	Academic Year			
Implementation	19	19	19	19
Lecture: Staff radiologist (1 hour) – every other year	MO/DA	MO/DA	MO/DA	MO/DA
a. Penetrating wounds of the head				
b. Blunt trauma to the head				
4. Radiological evaluation of combat chest injuries	Academic Year			
Implementation	19	19	19	19
Lecture: Staff radiologist (1 hour) – every other year	MO/DA	MO/DA	MO/DA	MO/DA
5. Radiological evaluation of traumatic abdominal and pelvic injuries	Academic Year			
Implementation	19	19	19	19
Lecture: Staff radiologist (1 hour) – every other year	MO/DA	MO/DA	MO/DA	MO/DA
6. Radiological evaluation of combat extremity Injuries	Academic Year			
a. Fractures/dislocations	19	19	19	19
Implementation	MO/DA	MO/DA	MO/DA	MO/DA
Lecture: Staff radiologist (1 hour) – every other year				
b. Soft tissue and vascular injuries	Academic Year			
Implementation	19	19	19	19
Lecture: Staff radiologist (1 hour) – every other year	MO/DA	MO/DA	MO/DA	MO/DA

7. Fevers in combat environment		Academic Year		
Implementation	19	19	19	19
Lecture: Staff internist (1 hour) – every other year	MO/DA	MO/DA	MO/DA	MO/DA

8. Diseases associated with trauma		Academic Year		
Implementation	19	19	19	19
Lecture: Staff surgeon (1 hour) – every other other year	MO/DA	MO/DA	MO/DA	MO/DA

9. Wound infections in combat casualty care		Academic Year		
Implementation	19	19	19	19
Lecture: Staff internist (1 hour) – every other year	MO/DA	MO/DA	MO/DA	MO/DA

B. Global endemic diseases		Academic Year		
Implementation				
Lecture annually (1 1/2 hours)				
By faculty Infectious Disease subspecialist	19	19	19	19
	MO/DA	MO/DA	MO/DA	MO/DA

1. Febrile syndromes of 3rd world countries
2. Water borne diseases
3. Arthropod borne diseases
4. Zoonoses
5. Parasitic diseases
6. Food/water contamination
7. Sexually transmitted diseases
8. Combat/trauma related infections
9. Treatment of local populations

C. Weapons of Mass Destruction

1. Nuclear warfare and medical effects of radiation		Academic Year		
Implementation	19	19	19	19
Lecture: Staff radiologist or Medical Physicist (1 hour) every year during Radiology Physics course	MO/DA	MO/DA	MO/DA	MO/DA

2. Chemical warfare agents		Academic Year		
Implementation	19	19	19	19
Lecture annually during CMRT by Red Flag cadre member	MO/DA	MO/DA	MO/DA	MO/DA

3. Biological warfare agents		Academic Year		
Implementation	19	19	19	19
Lecture annually during CMRT by Red Flag cadre member	MO/DA	MO/DA	MO/DA	MO/DA

C. Radiology of combat environmental injuries

1. Hypobarics and high altitude injuries

- 1 2. **Hyperbarics – compression and decompression injuries**
3. **Thermal injuries**
- 2 4. **Water – drowning/near drowning**
- 3 5. **Animal/insect/reptile bites**
6. **Lightning related injuries**

Implementation

Lecture: Staff Radiologist (1 hour)
19
- every other year

Academic Year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

C. Evaluation of rated personnel – Impact of radiological evaluation on PRP personnel and Flyers

Implementation

Lecture by Flight Surgeon – (30 minutes) –
every other year

Academic Year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

D. Doctrine of medical triage

1. **Mass casualties**
2. **Triage categories**
3. **Nuclear triage**

Academic Year

Implementation

Lecture annually during CMRT by
Red Flag cadre member

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

G. Combat support hospital and radiological support

Implementation

Lecture annually during CMRT by
Red Flag cadre member and/or staff radiologist

Academic Year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

H. Table of organization and medical echelon levels

Implementation

Lecture annually during CMRT by
Red Flag cadre member

Academic Year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

I. Radiological investigation of aircraft accidents –

Forensic radiology

Implementation

Lecture: Staff Radiologist (1 hour)
- every other year

Academic Year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

J. Preventive care radiological studies –

Mammography, Barium Enema, and Bone

Densitometry screening guidelines

Implementation

Lecture: Staff Radiologist (30 minutes)
- every other year

Academic Year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

II. Skill Objectives

The resident should be able to demonstrate the skill of:

A. Management of hypovolemic shock

Implementation

Lecture annually (1 hour) during Acute Cardiac Life Support course – every other year, demonstrate during certification testing

Academic Year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

B. Management of airway obstruction

Implementation

Lecture annually (1 hour) during Acute Cardiac Life Support course – every other year
During certification testing

Academic Year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

C. Management of contrast reactions

Implementation

Lecture annually (1 hour) during Acute Radiological Life Support course, demonstrate during Red Flag radiology training and computed radiography and genitourinary radiology rotations during residency

Academic Year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

D. Triage and management of radiation injuries

Implementation

Lecture annually during CMRT by Red Flag cadre member, demonstrate during Red Flag radiology training

Academic Year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

E. Radiation monitoring in combat

Implementation

Lecture: Staff radiologist or Medical Physicist (1 hour) every year, demonstrate during Red Flag radiology training

Academic Year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

F. Patient and equipment radiation decontamination in combat

Implementation

Lecture annually during CMRT by Red Flag cadre member, demonstrate during Red Flag training

Academic Year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

G. Surgeon-radiologist triage in mass casualty

Implementation

Lecture annually during CMRT by Red Flag cadre member, demonstrate during Red Flag mass casualty exercise

Academic Year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

G. Triage and sequencing radiographic studies in a Combat/ER environment

Implementation

Lecture annually during CMRT by Red Flag cadre member, demonstrate during demonstrate during 1 month ER rotation (twice during residency)

Academic Year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

I. Use of the Table of Organization and Equipment	Academic Year			
Implementation	19	19	19	19
Lecture annually during CMRT by	MO/DA	MO/DA	MO/DA	MO/DA
Red Flag cadre member, demonstrate during				
Red Flag mass casualty exercise				

I. Managing combat/trauma patients in the radiology suite	Academic Year			
Implementation		19	19	19
Lecture annually (1 hour) during Acute				
19				
Radiological Life Support course,	MO/DA	MO/DA	MO/DA	MO/DA
demonstrate during 1 month ER rotation				
(twice during residency)				

III. Value Objectives

The resident should be able to demonstrate the understanding of:

A. Radiation monitoring and decontamination	Academic Year			
Implementation	19	19	19	19
Lecture: Staff radiologist or Health Physicist (1 hour)		MO/DA	MO/DA	MO/DA
MO/DA				
- every year				

B. Unit operations in fallout	Academic Year			
Implementation	19	19	19	19
Lecture annually during CMRT by	MO/DA	MO/DA	MO/DA	MO/DA
Red Flag cadre member				

B. Medical response to peacetime radiation accidents	Academic Year			
Implementation	19	19	19	19
Lecture Staff radiologist or Health Physicist (1 hour)-		MO/DA	MO/DA	MO/DA
MO/DA every year				

C. Stress reactions to combat	Academic Year			
Implementation	19	19	19	19
Lecture annually during CMRT by	MO/DA	MO/DA	MO/DA	MO/DA
Red Flag cadre member				

D. Providing radiological evaluation in the combat	Academic Year			
Environment				
Implementation	19	19	19	19
Lecture annually during CMRT by	MO/DA	MO/DA	MO/DA	MO/DA
Red Flag cadre member and/or staff radiologist				

E. Combat medical triage	Academic Year			
Implementation	19	19	19	19
Lecture annually during CMRT by	MO/DA	MO/DA	MO/DA	MO/DA
Red Flag cadre member				

F. Providing care for trauma/critical patients in

**radiology suite
Implementation**

Lecture annually (1 hour) during Acute
MO/DA Radiological Life Support course

Academic Year

19	19	19	19
	MO/DA	MO/DA	MO/DA

Traditional

I. Cognitive Objectives

The resident should be able to demonstrate the knowledge of:

A. Medical effects of radiation

Implementation

Lecture: Staff radiologist (1 hour) – every other year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

B. Radiation monitoring

Implementation

Lecture: Staff radiologist or Medical Physicist (1 hour) – every other year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

C. Radiation safety and biology

Implementation

Lecture: Staff radiologist or Medical Physicist (1 hour) every other year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

D. Effects of ionizing radiation

Implementation

Lecture: Staff radiologist or Medical Physicist (1 hour) – every other year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

E. Foreign body localization – Computerized tomography and plain films- Implementation

Lecture: Staff radiologist (1 hour) – every other year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

F. Vascular injury detection – Computerized tomography Implementation

Lecture: Staff radiologist (1 hour) – every other year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

G. Vascular injury detection – Angiography Implementation

Lecture: Staff radiologist (1 hour) – every other year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

H. Fractures and associated injuries Implementation

Lecture: Staff radiologist (1 hour) – every other year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

I. Detection of penetrating injuries Implementation

Lecture: Staff radiologist (1 hour) – every other year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

J. Detection of pneumothorax				
Implementation	19	19	19	19
Lecture: Staff radiologist (1 hour)	MO/DA	MO/DA	MO/DA	MO/DA
– every other year				
K. Evaluation of non-traumatic vascular abnormalities				
Implementation	19	19	19	19
Lecture: Staff radiologist (1 hour)	MO/DA	MO/DA	MO/DA	MO/DA
– every other year				
L. Detection of ruptured/perforated viscus				
Implementation	19	19	19	19
Lecture: Staff radiologist (1 hour)	MO/DA	MO/DA	MO/DA	MO/DA
– every other year				
M. Radiological evaluation of patient with chest pain				
Implementation	19	19	19	19
Lecture: Staff radiologist (1 hour)	MO/DA	MO/DA	MO/DA	MO/DA
– every other year				
N. Radiological evaluation of shortness of breath				
Implementation	19	19	19	19
Lecture: Staff radiologist (1 hour)	MO/DA	MO/DA	MO/DA	MO/DA
– every other year				
O. Radiological evaluation of abdominal pain				
Implementation	19	19	19	19
Lecture: Staff radiologist (1 hour)	MO/DA	MO/DA	MO/DA	MO/DA
– every other year				
P. Radiological evaluation of pelvic pain				
Implementation	19	19	19	19
Lecture: Staff radiologist (1 hour)	MO/DA	MO/DA	MO/DA	MO/DA
– every other year				
Q. Radiological evaluation of extremity pain				
Implementation	19	19	19	19
Lecture: Staff radiologist (1 hour)	MO/DA	MO/DA	MO/DA	MO/DA
– every other year				
R. Radiological evaluation of altered level of consciousness				
Implementation	19	19	19	19
Lecture: Staff radiologist (1 hour)	MO/DA	MO/DA	MO/DA	MO/DA
– every other year				
S. Patient care during radiological procedures				
Implementation	19	19	19	19
Lecture: Staff radiologist (1 hour)	MO/DA	MO/DA	MO/DA	MO/DA
– every other year				

**T. Radiographic contrast media – use, contraindications,
and contrast reactions**

Implementation

Lecture: Staff radiologist (1 hour)
– every other year

19	19	19	19
MO/DA	MO/DA	MO/DA	MO/DA

