

Name: _____ Date: _____ Team: _____

Lab Experiment # 11

Scatter Radiation: Grid vs Non-grid Techniques

Computed Radiography

Purpose

This experiment is designed to demonstrate the effect of scatter radiation on the visibility of detail in digital imaging.

Learning Objectives

After completing this lab, you should be able to:

1. Use the laboratory equipment properly.
2. Set up the control console and ceiling tube mount correctly.
3. Function effectively in group work.
4. Perform the experiment independently.
5. Set up the control console.
6. Explain the effect of scatter radiation on the visibility of detail of a digital image.
7. Determine which radiographic studies require the use of a radiographic grid.

Materials Needed

- CR image receptors (10" x 12")
- Whole Body Phantom
- Set of radiopaque markers

Experimental Setup

Instructions for Exposure 1 – 4 using bucky

1. Place a CR image receptors in the **bucky lengthwise** and set the SID to 40 inches.
2. Place the **Whole Body Phantom** on the tabletop positioned for various projections as indicated on the worksheet
3. Set the control console to the **manual** mode.
4. Make exposure 1-4 using the settings indicated on the worksheet and derived from the technique chart.

Technique Worksheet

Computed Radiography Using Grid

Worksheet

	Anatomy	mode	kV	mAs	Part Thickness	Grid Ratio	SID	Igm
1	Shoulder AP	M					40"	
2	L-spine AP	M					40"	
3	Sacrum AP	M					40"	
4	Knee AP	M					40"	

Instructions for Exposure 5 – 8 using bucky

1. Place a CR image receptors on the top of a radiographic table under an anatomic part of interest **lengthwise** and set the SID to 40 inches.
2. Place the **Whole Body Phantom** on the tabletop positioned for various projections as indicated on the worksheet
3. Set the control console to the **manual** mode.
4. Make exposure 5-8 using the settings indicated on the worksheet and derived from the technique chart.

Computed Radiography NO Grid

Using GCF convert grid techniques to non-grid techniques

Worksheet

	Anatomy	mode	kV	mAs	Part Thickness	Grid Ratio	SID	lgm
1	Shoulder AP	M				TT	40"	
2	L-spine AP	M				TT	40"	
3	Sacrum AP	M				TT	40"	
4	Knee AP	M				TT	40"	

Worksheet

IgM Number	Briefly describe the fog (scatter) level of each image and the visibility of detail.
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1		
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2		
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3		
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4		
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5

6

7

8