



# Job Task Analysis

<b>Employer:</b>	<b>Stanislaus County</b>
<b>Occupation:</b>	Radiology Tech
<b>Classification:</b>	I, II, III
<b>Company Contact:</b>	Risk Management 1010 10 <sup>th</sup> Street Modesto, California 95354 (209) 525-5770
<b>Date:</b>	January 2009; May 2015
<b>Analysis Provided By:</b>	Lyle Andersen, PT, CWCE Andersen Physical Therapy, Inc. 1719 Coffee Road Modesto, California 95355 (209) 549-4626

## **INTRODUCTION:**

A complete job description is available through Stanislaus County Human Resources. The environmental factors, physical and functional demands for this Job Task Analysis were documented by Andersen Physical Therapy, Inc. The methodology for documentation consisted of on-site visits, using various measuring devices such as dynamometers and scales, as well as observation and interviews with employees and managers. A detailed record was made of the physical and functional demands of the job in terms of force pounds, weight, frequency, height, distance, anthropometric measurements, stamina, and degrees of range of motion. The determination of the frequencies of functional activities is based on standards provided by the National Institute for Occupational Safety and Health (NIOSH) and the Work Practice Guide for Manual Lifting (U.S. Department of Commerce, National Technical Information Service).

The Job Task Analysis is organized as follows: General work description; safety requirements; equipment; environmental factors; and physical/functional demands.

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**GENERAL WORK DESCRIPTION:**

The frequency of the following activities may vary according to the physical requirements of the specific job tasks that the employee may be required to perform at random intervals.

Under the general supervision of the department manager, the **Radiology Technologist I,II**, operates a variety of radiological equipment for diagnostic and treatment purposes. The Radiology Technologist III, operates a variety of radiological equipment for diagnostic and treatment purposes, including those of a more sophisticated nature.

**SPECIFIC DUTIES:** Available through the Human Resources Department at the County of Stanislaus.

<http://www.stancounty.com/riskmgmt/risk-dm-jta-class-sub-main.shtm>

**Safety Requirements:** All employees are required to observe company safety procedures and standards to insure individual and collective safety, in addition to avoiding unnecessary risk to oneself, co-workers, customers, and property.

**Equipment:**

- |                        |                                  |
|------------------------|----------------------------------|
| 1. Apron               | 8. Mouse                         |
| 2. Computer            | 9. Printer                       |
| 3. Copier              | 10. Radiation protection devices |
| 4. Film processor      | 11. Telephone                    |
| 5. Immobilization aids | 12. X-Ray equipment              |
| 6. Keyboard            | 13. X-ray film                   |
| 7. Marker placement    |                                  |

*All employees within the **Radiology Technician I, II, III** position are required to provide physical assistance for all weight and frequency requirement needs of all job tasks in order to maintain a safe work environment. Employees must be physically capable of working in any of the job tasks within the **Radiology Technician I, II, III** position.*

## ENVIRONMENTAL FACTORS



The following percentages are given in terms of an eight-hour workday:

<b>Seldom =</b> <b>Occasional =</b>	1% - 2% 3% - 33%	<b>Frequent =</b> <b>Constant =</b>	34% - 66% 67% - 100%
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	ENVIRONMENTAL FACTORS	MAXIMUM FREQUENCY
1.	Unprotected heights: .....	Not Applicable
2.	Being around moving machinery: .....	Not Applicable
3.	Exposure to marked changes in temperature and humidity: outside temperatures may seasonally vary between 28-110 degrees.	Not Applicable
4.	Exposure to dust, fumes, smoke, gases, or other irritating substances (specify):	Not Applicable
5.	Driving: .....	Not Applicable
6.	Exposure to excessive noise:..... <i>Hearing protection is available</i>	Not Applicable
7.	Exposure to radiant or electrical energy:..... Miscellaneous lead protection apparel and accessory equipment.	Not Required
8.	Exposure to solvents or chemicals:..... <i>Refer to MSDS document.</i>	Not Required
9.	Exposure to slippery or uneven walking surfaces:.....	Seldom
10.	Working below ground:.....	Not Applicable
11.	Unusual fatigue factors: .....	Not Applicable
12.	Working with explosives:.....	Not Applicable
13.	Excessive vibration: .....	Not Applicable
14.	Working with hands in water or other substance:..... <i>Hand protection is available</i>	Not Applicable
15.	Working proximity:.....	Alone: Not Required Closely with others: Continuous
16.	Working inside:.....	Continuous
17.	Working outside:.....	Not Applicable

## FUNCTIONAL ACTIVITIES



The frequency of the following activities may vary according to the physical requirements of the specific job tasks the employee may be required to perform at random intervals.

### PHYSICAL AND FUNCTIONAL REQUIREMENTS

<b>FREQUENCY DEFINITIONS</b>	<b>SELDOM</b>	<b>OCCASIONAL</b>	<b>FREQUENT</b>	<b>CONSTANT</b>
Percent of the Day	1-2%	3-33%	34-66%	67-100%
Material Handling	1-4 Reps	5-32 Reps	33-250 Reps	251-2,000 Reps
Non Material Handling	1-4 Reps	5-32 Reps	33-250 Reps	251-2,000 Reps
Repetitive & Static Work	1-50 Reps	51-250 Reps	251-1,000 Reps	1,001-20,000 Reps

**1.) PUSH: Pushing activities may require use of the back in conjunction with leg and arm musculature.**

<b>MAXIMUM REQUIREMENT</b>	
<b>0-10 pounds:</b>	Occasional
<b>11-25 pounds:</b>	Occasional
<b>26-35 pounds:</b>	Seldom
<b>36-50 pounds:</b>	Not Required
<b>51-75 pounds:</b>	Not Required
<b>76-100 pounds:</b>	Not Required
<b>Maximum Force:</b> <b>35 Pounds</b>	

**Assistive Devices:** 4-Wheeled Cart. Additionally, one person assistance is available with forces greater than 35 pounds.

**Comments:** Pushing is utilized with activities such as retrieving, returning, storing, adjusting, moving, and/or transporting equipment and supplies (e.g. cart, door). The employee exerts up to 35 pounds of force in a horizontal plane from waist to shoulder height of a distance up to 30+ feet when performing job tasks (e.g. up to 35 pounds of force to travel with cart; open/close door, drawer, file, cabinet; wheelchair, cart; assisting with patient transfer; x-ray equipment relocation).

**2.) PULL: Pulling activities may require use of the back in conjunction with leg and arm musculature.**

<b>MAXIMUM REQUIREMENT</b>	
<b>0-10 pounds:</b>	Occasional
<b>11-25 pounds:</b>	Occasional
<b>26-35 pounds:</b>	Seldom
<b>36-50 pounds:</b>	Not Required
<b>51-75 pounds:</b>	Not Required
<b>76-100 pounds:</b>	Not Required
<b>Maximum Force:</b> <b>35 Pounds</b>	

**Assistive Devices:** 4-Wheeled Cart. Additionally, one person assistance is available with forces greater than 35 pounds.

**Comments:** Pulling is utilized with activities such as retrieving, returning, storing, adjusting, moving, and/or transporting equipment, and supplies (e.g. cart, door). The employee exerts up to 35 pounds of force in a horizontal plane from waist to shoulder height of a distance up to 5+ feet when performing job tasks (e.g. pull up to 35 pounds of force to travel with cart open/close door, drawer, file, cabinet; wheelchair, cart; assisting with patient transfer; x-ray equipment relocation). *Pushing is the preferred method of moving carts.*

**3.) STAND-UP LIFT:** *Lifting weighted objects between floor and waist height.*

**MAXIMUM REQUIREMENT**

<b>0-10 pounds:</b>	Occasional
<b>11-25 pounds:</b>	Occasional
<b>26-35 pounds:</b>	Seldom
<b>36-50 pounds:</b>	Seldom
<b>51-75 pounds:</b>	Not Required
<b>76-100 pounds:</b>	Not Required

**Maximum Force:** **40** Pounds

**Assistive Devices:** 4-Wheeled Cart. Additionally, one or more person(s) assistance is available with weights greater than 40 pounds.

**Comments:** A stand-up lift is utilized with activities such as retrieving, returning, storing, adjusting, moving, and/or transporting equipment (e.g. miscellaneous radiological supplies; patients). The employee lifts items weighing between <1 pound and 40 pounds when performing job tasks (e.g. assist patient with transfer to/from radiological machine; up to 20-pound handful or armful of film or cassettes; cases or boxes of stored supply materials). *Box of x-ray film may weigh up to 55 pounds. Individual films may be removed and lifted individually.*

**4.) LEVEL LIFT:** *Lifting weighted objects from between waist and chest height level for a maximum horizontal distance of up to four feet.*

**MAXIMUM REQUIREMENT**

<b>0-10 pounds:</b>	Occasional
<b>11-25 pounds:</b>	Occasional
<b>26-35 pounds:</b>	Seldom
<b>36-50 pounds:</b>	Seldom
<b>51-75 pounds:</b>	Not Required
<b>76-100 pounds:</b>	Not Required

**Maximum Force:** **40** Pounds

**Assistive Devices:** Cart. Additionally, one or more person(s) assistance is available with weights greater than 40 pounds.

**Comments:** A level lift is utilized with activities such as retrieving, returning, storing, adjusting, moving, and/or transporting equipment (e.g. miscellaneous radiological supplies; patients). The employee lifts items weighing between <1 pound and 40 pounds when performing job tasks (e.g. up to 20-pound handful or armful of film or cassettes; case or box of stored supply materials; lead apron; stabilize and/or assist patient with transfer). *Box of x-ray film may weigh up to 55 pounds. Individual films may be removed and lifted individually.*

**5.) WEIGHT CARRY:** *Carrying weighted objects between waist and chest height beyond a distance of four feet.*

**MAXIMUM REQUIREMENT**

<b>0-10 pounds:</b>	Occasional
<b>11-25 pounds:</b>	Occasional
<b>26-35 pounds:</b>	Seldom
<b>36-50 pounds:</b>	Seldom
<b>51-75 pounds:</b>	Not Required
<b>76-100 pounds:</b>	Not Required

**Maximum Force:** **40** Pounds

**Assistive Devices:** Cart. Additionally, one or more person(s) assistance is available with weights greater than 40 pounds.

**Comments:** A level lift is utilized with activities such as retrieving, returning, storing, adjusting, moving, and/or transporting equipment (e.g. miscellaneous radiological supplies; patient). The employee carries items weighing between <1 pound and 40 pounds between 5 feet and 30+ feet when performing job tasks (e.g. up to 20-pound handful of film or cassettes; case or box of stored supply materials).

**6.) OVERHEAD LIFT/PULL DOWN:** *Lifting weighted object from/to chest and overhead height level.*

<b>MAXIMUM REQUIREMENT</b>	
<b>0-10 pounds:</b>	Occasional
<b>11-25 pounds:</b>	Not Required
<b>26-35 pounds:</b>	Not Required
<b>36-50 pounds:</b>	Not Required
<b>51-75 pounds:</b>	Not Required
<b>76-100 pounds:</b>	Not Required
<b>Maximum Force:</b> <b>&lt;5 Pounds</b>	

**Assistive Devices:** A vertical ladder, step ladder or step stool is available to bring items to eye or shoulder level. Additionally, one person assistance is available with weights greater than 5 pounds.

**Comments:** Overhead lift/pull down is utilized with activities such as retrieving, returning, adjusting, moving, and/or transporting equipment (e.g. x-ray component). The employee lifts items weighing between <1 pound and 5 pounds to a maximum height of 72 inches when performing job tasks (e.g. x-ray tube relocation). *Variables to overhead reaching will be the employee's height and anthropometric reach.*

**7.) OVERHEAD REACH:**

<b>MAXIMUM</b>	
<b>FREQUENCY:</b>	Occasional

**Comments:** Overhead reach is performed to a maximum height of 72 inches when retrieving, returning, adjusting, moving and/or transporting equipment (e.g. reach for x-ray tube relocation and/or adjustment). *A ladder (appropriate height) or step stool may be utilized to bring items to eye or shoulder level. Variables to overhead reaching will be the employee's height and anthropometric reach.*

**8.) FORWARD REACH:**

<b>MAXIMUM</b>	
<b>FREQUENCY:</b>	Frequent

**Comments:** Forward reach is performed to a distance of 28 inches when retrieving, returning, storing, adjusting, moving and/or transporting equipment and supplies (e.g. operate equipment, keypads; assist patient with position and transfer, position cassette and film, immobilization aids; lead shield; stored materials; push/pull equipment; marker placement; adjust x-ray tube). *The degree of elbow extension required for reaching will vary according to the employee's anthropometric reach.*

**9.) STOOP:**

<b>MAXIMUM</b>	
<b>FREQUENCY:</b>	Seldom

**Comments:** Stooping is performed when retrieving, returning, storing, adjusting, moving, and/or transporting equipment and supplies (e.g. assist patient with position and transfer; miscellaneous stored items; placement of immobilization aid). *Variable to stooping will be the employee's height. Stooping of the head, trunk and knees can be minimized or avoided by substituting alternate positions of squatting, kneeling or bending when performing job tasks.*

10.) **SQUAT:** (*Unloaded*)

**MAXIMUM**  
**FREQUENCY:** Seldom

**Comments:** Squatting is performed when retrieving, returning, and/or adjusting equipment (e.g. position film for x-ray). *Squatting may be minimized or avoided by substituting alternate positions of bending or kneeling. Partial squatting is a preferred lifting posture.*

11.) **FORWARD BEND:**

**MAXIMUM**  
**FREQUENCY:** Occasional

**Comments:** Bending forward at the waist is performed when retrieving, returning, storing, adjusting, moving, and/or transporting equipment and supplies (e.g. assist patient with position and transfer; miscellaneous stored items; placement of immobilization aids). Maximum forward trunk flexion required is 60 degrees. *Employee may avoid excessive forward bending of the trunk up to 80 degrees by using alternate positions of bending at the hips, kneeling, half kneeling, stooping, sitting or squatting.*

12.) **TWIST:**

**MAXIMUM**  
**FREQUENCY:** Occasional

**Comments:** Twisting at the waist is performed when retrieving, returning, storing, adjusting, moving, and/or transporting equipment and supplies (e.g. assist patients with position and transfer; miscellaneous stored items; placement of immobilization aids). *Twisting at the waist may be minimized by turning the whole body, including the feet and working from a swivel chair.*

13.) **TURN:**

**MAXIMUM**  
**FREQUENCY:** Occasional

**Comments:** Turning is performed when retrieving, returning, storing, adjusting, moving, and/or transporting equipment and supplies (e.g. assist patient with position and transfer; miscellaneous stored items; placement of immobilization aids).

14.) **KNEEL:**

**MAXIMUM**  
**FREQUENCY:** Not Required

**Comments:** Kneeling is not required to perform job tasks. *Kneeling may be minimized or avoided by substituting alternate positions of bending, squatting, or halfkneeling.*

15.) **CRAWL:**

**MAXIMUM FREQUENCY:** Not Required

**Comments:** Crawling is not required to perform job tasks.

16.) **STAIR CLIMB:**

**MAXIMUM FREQUENCY:** Not Required

**Comments:** Stair climb is not required in order to go to/from the basement or 2<sup>nd</sup> story. Elevators are available.

17.) **LADDER CLIMB:**

**MAXIMUM FREQUENCY:** Not Required

**Comments:** Ladder climbing is not required to perform job tasks. *Variables to overhead climbing will vary according to the employee's height and anthropometric reach.*

18.) **WALK:**

**MAXIMUM FREQUENCY:** Frequent

**Comments:** Walking is performed when retrieving, returning, storing, adjusting, moving, and/or transporting equipment and supplies (e.g. walk to/from exam/dressing/waiting/dark/office rooms). Walking length varies between 3 feet and 200+ feet depending on job task.

19.) **SIT:**

**MAXIMUM FREQUENCY:** Occasional

**Comments:** Sitting is required to perform job tasks (e.g. documentation). *Specific*

20.) **STAND: (Static)**

**MAXIMUM FREQUENCY:** Frequent

**Comments:** Static standing is performed for a maximum of 10-minute intervals when performing job tasks (e.g. monitor and operate imaging machines; patient instruction; observation of worksite; documentation).

21.) **BALANCE:**

**MAXIMUM FREQUENCY:** Frequent

**Comments:** Good balance is required for safe walking, standing, reaching and lifting.

## **22.) HAND/FOOT CONTROL:**

<b><u>MAXIMUM REQUIREMENT</u></b>	
<b>HAND:</b>	
<b>Right:</b>	Not Required
<b>Left:</b>	Not Required
<b>Both:</b>	Occasional
<b>Either:</b>	Occasional
<b>FOOT:</b>	
<b>Right:</b>	Not Required
<b>Left:</b>	Not Required
<b>Both:</b>	Not Required
<b>Either:</b>	Occasional

**Comments:** Hand controls are utilized to operate equipment (e.g. gurney, tube) when adjusting controls (e.g. gurney crank head control; x-ray tube adjustment and/or relocation). Foot controls are utilized to operate equipment (e.g. handwashing valve; table control).

## **23.) UPPER AND LOWER EXTREMITY COORDINATION:**

<b><u>MAXIMUM REQUIREMENT</u></b>	
<b>Simple Grasp:</b>	Frequent
<b>Firm Grasp:</b>	Occasional
<b>Fine Manipulation:</b>	Frequent
<b>Eye/Hand Coordination:</b>	Frequent
<b>Hand/Foot Coordination:</b>	Not Required

**Comments:** Grasping and coordination activities are performed when retrieving, returning, storing, operating, adjusting, moving, and/or transporting equipment and supplies (e.g. imaging machines and paraphernalia).

**Simple grasping** is utilized to perform job tasks (e.g. lift and manipulate objects weighing less than 5 pounds; perform miscellaneous radiological examination procedures).

**Firm grasping** is utilized to perform job tasks (e.g. lift and handle objects weighing 5 pounds or greater; perform miscellaneous radiological examination procedures; transfer, assist and place patient).

**Fine manipulation** is utilized to perform job tasks (e.g. key pads; keyboard, mouse, handwrite; marker placement; switch, lever, button).

**Eye/hand coordination** is utilized to perform job tasks (e.g. key pads; keyboard, mouse, handwrite; marker placement; equipment placement; documentation; placement of x-ray and immobilization aids).

**Hand/foot coordination** is not utilized to perform job tasks.

*Depending on individual hand dominance, one hand may be used more frequently than the other when performing job tasks.*

**24.) CERVICAL (NECK) MOVEMENT:**

<b><u>MAXIMUM REQUIREMENT</u></b>	
<b>Static Neutral Position:</b>	Frequent
<b>Flexing:</b>	Occasional
<b>Rotating:</b>	Occasional
<b>Extending:</b>	Seldom

**Comments:** Neck movement is required when performing job tasks (e.g. performing radiological procedure, assist patient; office work; maintain supply inventory). *Participating in observation of work environment allowing for safe working conditions. Full cervical range of motion is required to safely perform the job tasks.*

{End of Report}



# Stanislaus County

## JOB TASK ANALYSIS SUMMARY

<u>FREQUENCY DEFINITIONS</u>	<u>SELDOM</u>	<u>OCCASIONAL</u>	<u>FREQUENT</u>	<u>CONSTANT</u>
Percent of the Day	1-2%	3-33%	34-66%	67-100%
Material Handling	1-4 Reps	5-32 Reps	33-250 Reps	251-2,000 Reps
Non Material Handling	1-4 Reps	5-32 Reps	33-250 Reps	251-2,000 Reps
Repetitive & Static Work	1-50 Reps	51-250 Reps	251-1,000 Reps	1,001-20,000 Reps

The following is a summary of the physical demands of the Job Task Analysis that were obtained for the position of:

### RADIOLOGY TECHNICIAN I, II, III

Functional Activities	Maximum Requirements	Functional Activities	Maximum Requirements
<i>Push (Force)</i> <sup>1</sup>	35 pounds	<i>Stair Climb</i>	Not Required
<i>Pull (Force)</i> <sup>1</sup>	35 pounds	<i>Ladder Climb</i>	Not Required
<i>Stand Up Lift</i> <sup>1</sup>	40 pounds	<i>Walk</i> <sup>1</sup>	Frequent
<i>Level Lift</i> <sup>1</sup>	40 pounds	<i>Sit</i>	Occasionally
<i>Weight Carry</i> <sup>1</sup>	40 pounds	<i>Stand (Static)</i> <sup>1</sup>	Frequent
<i>Overhead Lift/Pull Down</i> <sup>1</sup>	<5 pounds	<i>Balance</i> <sup>1</sup>	Frequent
<i>Overhead Reach</i> <sup>1</sup>	Occasional	<i>Hand Control</i> <sup>1</sup>	Occasional
<i>Forward Reach</i> <sup>1</sup>	Frequent	<i>Foot Control</i> <sup>1</sup>	Occasional
<i>Stoop</i> <sup>1</sup>	Seldom	<i>Simple Grasp</i> <sup>1</sup>	Frequent
<i>Squat (Unloaded)</i> <sup>1</sup>	Seldom	<i>Firm Grasp</i> <sup>1</sup>	Occasional
<i>Forward Bend</i> <sup>1</sup>	Occasional	<i>Fine Manipulation</i> <sup>1</sup>	Frequent
<i>Twist</i> <sup>1</sup>	Occasional	<i>Eye/Hand Coordination</i> <sup>1</sup>	Frequent
<i>Turn</i> <sup>1</sup>	Occasional	<i>Hand/Foot Coordination</i> <sup>1</sup>	Not Required
<i>Kneel</i>	Not Required	<i>Cervical (neck) Movement</i> <sup>1</sup>	Frequent
<i>Crawl</i>	Not Required		

<sup>1</sup> The critical demands of the job.

*Lyle Andersen, PT*

Date: \_\_\_\_\_

Lyle Andersen, PT, CWCE  
Preparer Signature

*Paul Forrette*

Date: 7-27-15

Contact Person  
Title Clinic Manager RN

*Sue Herzog*

Date: 7-27-15

Contact Person  
Title HR Manager

Date: \_\_\_\_\_

Contact Person  
Title

LA/ga