

Musculoskeletal Evaluation for Office Ergonomics

Quick Reference

Subjective:

- Thorough pain description: type, intensity, duration, provocative maneuvers, location
- Physical work demands

Intake Form:

- Detailed information about work demands and equipment used
- Health conditions

Ergonomic Evaluation Form:

- Video and pictures
- Geometry of workstation elements
- Patient's position in workstation
- Work environment: lighting, temperature, noise
- Work schedule
- Lifestyle habits

Sitting

- Alignment
 - Head position
 - Cervical spine
 - Thoracic spine
 - Shoulders
 - Scapula
 - Clavicle
 - Humerus
- Movement
 - Thoracic flexion, rotation, sidebending
 - Bilateral shoulder flexion
 - Shoulder abduction
 - Shoulder external rotation
 - Cervical range of motion
 - With passive elevation of shoulder girdle test
- Muscle Performance
 - Serratus anterior
 - Upper trapezius

Standing

- Alignment
 - Slope of shoulders
 - Abd/Add scapula
 - Vertebral border
 - ER/IR scapula
 - Tilt scapula

- Level of scapula
- Clavicle slope
- IR/ER humerus
- Position of humeral head
- **Movement**
 - **Bilateral shoulder forward flexion**
 - Scapula upward rotation, posterior tilt, external rotation
 - Inferior angle to midaxillary line
 - Vertebral border to 55-60 degrees
 - Root of spine 3"
 - Glenohumeral creases
 - Shoulder external rotation to 60 degrees

Supine

- **Alignment**
 - Head position
 - Cervical spine
 - Thoracic spine
 - Shoulders: humeral head position
 - Scapula: influence of pectoralis muscles
 - Humerus
- **Movement**
- **Muscle Length**
 - Pectoralis minor length test
 - Pectoralis major length test
 - Sternal
 - Clavicular
 - Latissimus dorsi length test
 - Scapulohumeral muscle length test
 - Teres major
 - Biceps length test
 - Posterior capsule and external rotators
 - Anterior capsule and internal rotators

Prone

- **Movement**
- **Muscle Length**
- **Muscle Performance**
 - Shoulder ER/IR
 - Lower and middle trapezius (assessed during MMT below)
- **Neuromuscular Control**
 - Lower and middle trapezius (assess during MMT below)
- **Muscle Strength**
 - Lower trapezius (T12 palpation)
 - Middle trapezius (T 3 palpation)

- Rhomboids

Quadruped

- Alignment
- Movement
 - Rocking backwards
 - Cervical extension
 - Scapular movement
 - Unilateral shoulder flexion
 - Cervical flexion/extension
- Neuromuscular Control
 - Unilateral shoulder flexion

Common findings:

- Short/tight/stiff
 - SCM, Pectoralis Minor, Latissimus Dorsi
 - Anterior tilt of scapula, rounded shoulders, forward head, abducted scapulae, IR GH joint
- Overactive
 - Levator Scapulae, Upper Trapezius, Upper Rhomboids
 - Elevated scapulae
- Weak and Long
 - Middle and Lower Trapezius, Serratus Anterior