Benjamin DuBois, MD

- Private Practice Orthopaedic Surgeon
- Matsen Fellowship Trained 2003-2004
- Courses, Training, etc
- Over 1000 US Exams and Injections
TODAY’S OBJECTIVES

- Identify indications for US and how to integrate it into your practice
- Identify normal anatomy
- Identify abnormal anatomy
- Understand role of US in injections
- Cadaver lab for injections
OVERVIEW

- Technique is important
- Repetition is important
- Operator dependent
- Learning curve
- Gets easier
- Get good training
TRAINING: BASICS

- EXPOSURE
- POSITION
- DARK ROOM
- BILATERAL EXAM
- REPETITION
TRAINING: BASICS

- ALWAYS VISUALIZE THE ANATOMIC STRUCTURE FROM THE POINT OF VIEW AS IF YOU ARE LOOKING AT THE BROAD FACE OF THE PROBE
TRAINING: GETTING ORIENTED

Supraspinatus

Coronal Image, Right Shoulder
TRAINING:
GETTING ORIENTED

Biceps Tendon

Axial Image, Right Shoulder
The 13 Point Exam
Summary

5 points for anterior shoulder
4 points for supraspinatus
3 points for posterior shoulder
One point for AC joint
POINT 1

AXIAL BICEPS
POINT 2

SAGITTAL BICEPS
POINT 3

AXIAL SUBSCAP
POINT 4

SAGITTAL SUBSCAP
POINT 5

AXIAL SUBSCAP/COROCOID
POINT 6

CORONAL ANTERIOR SUPRAPSINATUS
POINT 6

DYNAMIC SUPRASPINATUS CONTRACTION TEST
POINT 7

CORONAL POSTERIOR SUPRASPINATUS
POINT 8

SAGITTAL ANTERIOR SUPRASPINATUS
POINT 9

SAGITTAL POSTERIOR SUPRASPINATUS
POINT 10

AXIAL INFRASPINATUS
POINT 11

SAGITTAL INFRASPINATUS
POINT 12

AXIAL POSTERIOR JOINT
POINT 13

CORONAL AC JOINT
ANISOTROPY

*An “artifact” found on sonograms of tendons*

If the probe is not held with the surface parallel to the tendon, US reflection is not back towards the probe and the tendon appears falsely hypoechoic. This hypoechoic appearance is eliminated with proper transducer orientation (realignment)
ANISOTROPY
PATHOLOGY

- FULL THICKNESS
- PARTIAL THICKNESS
- CALCIFIC TENDONITIS
- BICEPS PATHOLOGY
- FLUID COLLECTIONS
- POSTOP
FTRCT

Full Thickness Supra

Normal Supra

CORONAL VIEW
FTRCT

Full Thickness Supra

Normal Supra

SAGITTAL VIEW
CALCIFIC TENDINITIS
BICEPS
SUBACROMIAL FLUID
SUBACROMIAL FLUID
POSTOPERATIVE CUFF REPAIR
ULTRASOUND GUIDED INJECTIONS

- Subacromial
- Glenohumeral
- Biceps Sheath
- AC Joint
ULTRASOUND GUIDED INJECTIONS

- Gel
- Betadine
- Needle
- Ethyl Chloride Spray
- Probe Cover
- Needles
ULTRASOUND GUIDED INJECTIONS

BASIC US GUIDED INJECTION PRINCIPLE

INJECT IN LINE WITH THE LONG AXIS OF THE TRANSDUCER
ULTRASOUND GUIDED INJECTIONS
ULTRASOUND GUIDED INJECTIONS
ULTRASOUND GUIDED INJECTIONS
ULTRASOUND GUIDED INJECTIONS
ULTRASOUND GUIDED INJECTIONS
ULTRASOUND GUIDED INJECTIONS
SUBACROMIAL

POSTERIOR SUBACROMIAL
SUBACROMIAL

POSTERIOR

ANTErior
SUBACROMIAL

LATERAL SUBACROMIAL
SUBACROMIAL
SUBACROMIAL
GLENOHUMERAL

POSTERIOR GLENOHUMERAL
GLENOHUMERAL
GLENOHUMERAL
GLENOHUMERAL
BICEPS SHEATH
BICEPS SHEATH
AC JOINT
AC JOINT
SUMMARY

- GET ORIENTED
- GET TRAINED
- HAVE A SYSTEM
- PRACTICE
- HAVE FUN
THANK YOU

LAS VEGAS MSK ULTRASOUND COURSE
JULY 27-28, 2012
ORTHOSONO.COM