#### Rheumatology



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## Approach to Acute Joint & Bursa Pain



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# "the swollen painful joint"

**C**Ortho Approach

**Past** 

**Present** 

## "the swollen painful joint/bursa"



#### "Get me tissue!"

Meg Wilkes

### **RAA**



## **RAnalyze**

## **RASpirate**

#### **A**spirate



- Analysis of synovial fluid should be performed as part of the diagnostic evaluation in all patients with a new effusion.
- All joints can be aspirated.
- Bursas can also be aspirated for diagnostic purposes

#### Risks of Arthrocentesis



- **alatrogenic** infection
- **∞**Bleeding
- **Realin**

## Contraindications for Arthrocentesis

Absolute: None

Relative: Cellulitis, prolonged INR or other bleeding tendencies

**Alnformed** consent

#### Arthrocentesis Technique



- Examine the patient carefully and decide your approach
- Mark the area (if possible)
- Always use universal precautions

## **RAnalyze**

#### Analyze



## Synovial Fluid Analysis

#### Analyze



RCell Count Crystal Analysis Culture/Gram Stain **Chemistry** 

#### Analyze: Cell Count



Normal <200 WBC
</p>

>200 <2000 WBC Non-inflammatory</p>

>2000 <100,000 WBC Inflammatory</p>

>100,000 WBC Septic

#### Crystal Analysis



- Monosodium Urate (MSU) crystals cause gout.
- Calcium Pyrophosphate Dihydrate (CPPD) crystals cause pseudogout.

#### Crystal Analysis



- Calcium hydroxyapatite
- calcium oxalate
- **Cholesterol**
- **Glucocorticoids**
- Immunoglobulins
- ca Talc

#### Chemistry Analysis



- - Normal is nearly equal to blood
  - If inflammatory lower than blood
  - If septic very low
  - Other measurements not necessary

#### Culture Fluid

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Racterial Repair Repair

AAAA



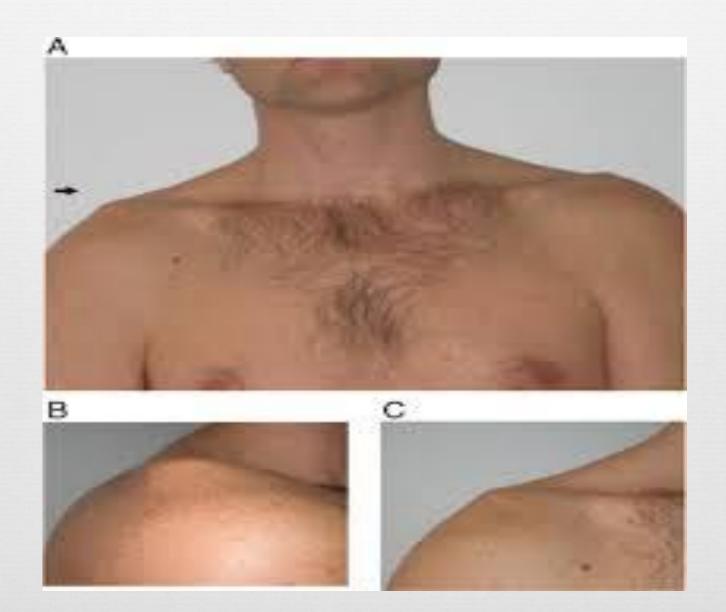
# Appropriate Therapy

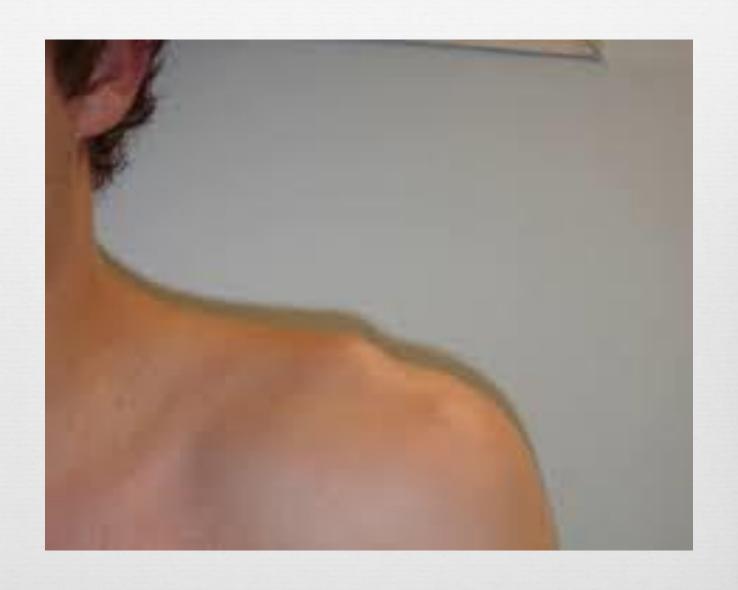
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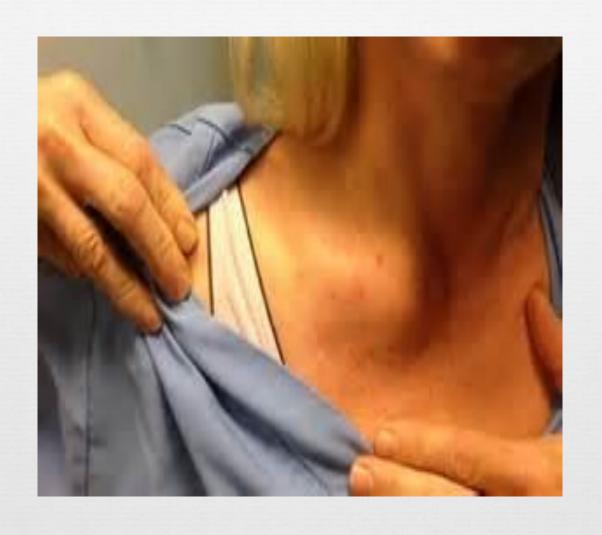
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Figure 1 Knee monoarthritis with inflammatory signs.







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