Sessions: Musculoskeletal

The musculoskeletal block will consist of four sessions:

1. Inflammatory polyarthritis (Rheumatology part 1)
2. Inflammatory polyarthritis (Rheumatology part 2)
3. Orthopedic approach to specific joint problems
4. Back pain – part 2 (part 1 was covered in ASCM 1)

Please check your schedule for the order of the sessions.

OBJECTIVES:

1. Obtain a complete and organized history of a patient with the following musculoskeletal problems:
   a. polyarthritis (Rheumatology sessions 1 and 2)
   b. Isolated knee, shoulder or hip complaint (Ortho session)
   c. back pain (Back session)

2. Within the musculoskeletal HPI, describe the questions that allow you to
   a. Differentiate between inflammatory and non-inflammatory peripheral arthritis
   b. Differentiate between the four common back pain presentations
   c. Differentiate between inflammatory and non-inflammatory back disease
   d. Rule out serious medical/surgical causes of back pain (ie. red flags)
   e. Differentiate between hip pathology and spine pathology
   f. Differentiate between shoulder pathology and cervical spine pathology
   g. Elucidate the cause of shoulder pain (ie. inflammatory vs rotator cuff pathology/impingement)

3. Demonstrate the physical examination maneuvers and describe the findings that allow you to
   a. Differentiate between inflammatory and non-inflammatory arthritis in the hand
   b. Elucidate the cause of shoulder pain and rule out cervical spine pathology
   c. Identify inflammation/damage in the following joints: elbow, hip, knee, ankle and foot
   d. Identify irritation/compression of spinal cord/nerve roots in the patient with back pain
   e. Identify irritation/compression of spinal cord/nerve roots in the patient with neck pain
   f. Identify evidence of inflammatory sacroiliitis/ inflammatory spondylitis (longstanding)

4. Demonstrate an approach to reading musculoskeletal radiographs of the hands, knees and hip
   a. Describe the features of inflammatory arthritis, including crystalline arthritis
   b. Describe the features of osteoarthritis
OBJECTIVES:

By the end of this session, you should be able to:

1. Perform a complete and organized history of a patient with polyarthritis
   a. Differentiate between inflammatory and non-inflammatory peripheral arthritis
   b. Ask about extra-articular manifestations of disease
   c. Ask about functional status

2. Demonstrate the physical exam maneuvers that allow you to assess joints of the upper extremity for the presence of inflammatory or degenerative change (ie. hands, wrists, elbows, shoulders)
   a. Differentiate between inflammatory arthritis and osteoarthritis in the hand

3. Describe patterns of joint involvement for different forms of inflammatory arthritis as well as for osteoarthritis

TIMETABLE:

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<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>08:00-09:00</td>
<td>Teaching session by Rheumatologist (1 clinician for 6 students). Introduction to the history for assessing the patient with polyarthritis. Discussion of extra-articular manifestations and patterns of joint involvement in different diseases.</td>
</tr>
<tr>
<td>09:00-10:15</td>
<td>Students in pairs take a history of a patient with polyarthritis (inflammatory or osteoarthritis).</td>
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<tr>
<td>10:30-12:00</td>
<td>Examination of patients is reviewed in detail with the clinician (all 6 students in attendance) to compare and contrast history and physical findings in each patient. The focus of session 1 will be examination of the upper extremity. (Detailed regional examination of the shoulder will be covered in the Orthopedics session)</td>
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**CONTENT:**

This session will build on the ASCM 1 session, which should be reviewed (including the GALS assessment).

This session will concentrate on the approach to history and physical exam as it relates to polyarticular joint disease.

The recommended readings will be particularly helpful for those students who have their musculoskeletal sessions prior to the “rheumatology week” in MMMD.

**The goals of the history and physical in the approach to polyarticular complaints are as follows:**

1. Decide if the process is articular or non-articular
2. Decide if the process is inflammatory or non-inflammatory
3. Look for clues that can narrow down the diagnosis, especially the presence of extra-articular manifestations

**On history,** articular problems are characterized by pain through the whole range of motion of an involved joint whereas peri-articular problems produce pain with movement in certain directions only, and non-articular problems may produce pain unrelated to joint movement.

Inflammatory disease is characterized by:

- pain, swelling, warmth, erythema and the presence of morning stiffness (> 1 hour)

Information gleaned in the HPI that may help to narrow down the diagnosis includes:

- demographics (gender, age), acuity or chronicity of process, pattern of onset and progression, presence or absence of spine (axial) involvement and presence of extra-articular manifestations (EAM).

Extra-articular manifestations (EAM) may include the following:

- Skin (rash, psoriasis, nodules, mucous membrane lesions, alopecia)
- Raynaud’s phenomenon
- Ocular (sicca, conjunctivitis, scleritis, iritis/uveitis)
- Genitourinary (urethritis, cervicitis, balanitis)
- Gastrointestinal (bloody diarrhea, established inflammatory bowel disease)
- Neurological (peripheral and central nervous disorders)
- Respiratory / cardiac
- Constitutional (fever, weight loss)
Detailed inquiry of activities of daily living should be pursued to determine the functional status of the patient and the impact of the disease on the ability to manage personal care, home responsibilities, leisure activities and job-related activities.

**Physical exam** of a patient with symmetrical polyarthritis will be reviewed with special emphasis on the following:

Signs of an **ACTIVE JOINT** = inflammatory

- Swelling
- Increased warmth
- Stress pain (pain at end of range of motion)
- Joint line tenderness

Signs of a **DAMAGED JOINT**

- Fusion
- Subluxation or dislocation
- Fixed loss of ROM > 20 %
- Ligamentous instability
- Bone / bone crepitus

The patient must also be examined for the presence of EAM.

An approach to **X-rays** will be reviewed in the next session, with emphasis on the hands, knees and hips. **PLEASE REVIEW ON-LINE X-RAY MODULE PRIOR TO SESSION 2**

**REFERENCES AND SUGGESTED READING:**

- Bates Chapter 16
- Ensworth, S. Rheumatology: 1. Is it arthritis? CMAJ 2000; 162(7):1011-1016
- Klinkhoff, A. Rheumatology: 5. Diagnosis and Management of Inflammatory Polyarthritis. CMAJ 2000; 162(13):1833-8
MSK 2 Session:
Approach to polyarthritis and lower extremity evaluation

OBJECTIVES:

By the end of this session, you should be able to:

1. Demonstrate the physical exam maneuvers that allow you to assess joints of the lower extremity for the presence of inflammatory or degenerative change (i.e. hips, knees, ankle, foot)
2. Describe patterns of joint involvement for different forms of inflammatory arthritis as well as for osteoarthritis
3. Demonstrate an approach to reading musculoskeletal radiographs of the hands, knees and hip using a standardized data base of X-rays
4. Describe the features of inflammatory arthritis, including crystalline arthritis
5. Describe the features of osteoarthritis

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<tr>
<td>08:00-09:00</td>
<td>Teaching session by rheumatologist. Review patterns of joint involvement in inflammatory arthritis and osteoarthritis. Review approach to reading musculoskeletal Xrays covered in self-study module. Provide examples of Xrays from for students to examine, to illustrate how Xrays can be helpful in diagnosing patient with polyarthritis.</td>
</tr>
<tr>
<td>09:00-10:15</td>
<td>Students to review examination, in detail, of lower extremity joints with respect to the presence of inflammatory arthritis vs osteoarthritis. (Regional approach to hip pain and knee pain will be covered in the orthopaedics session)</td>
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<tr>
<td>10:30-12:00</td>
<td>All patients are reviewed in detail with clinician (all 6 students in attendance) to compare and contrast history and physical findings.</td>
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CONTENT:

This session will build on concepts covered in the ASCM I session, which should be reviewed (including the GALS assessment and the knee exam)

This session will concentrate on the approach to the history and physical exam as it relates to polyarticular joint disease.

THE SELF-STUDY MODULE ON APPROACH TO READING MSK X-RAYS SHOULD BE REVIEWED PRIOR TO THIS SESSION.
OBJECTIVES:

By the end of this session, you should be able to:

1. Obtain a complete and organized history of a patient with isolated knee, shoulder or hip complaints. Describe the questions that allow you to
   a. Differentiate between hip pathology and spine pathology
   b. Differentiate between shoulder pathology and cervical spine pathology
   c. Elucidate the cause of shoulder pain (articular vs. rotator cuff pathology/impingement)
2. Demonstrate the physical examination maneuvers and describe the findings that allow you to
   a. Elucidate the cause of shoulder pain and rule out cervical spine pathology
   b. Identify irritation/compression of spinal cord/nerve roots in the patient with neck pain
   c. Elucidate the cause of hip pain
   d. Elucidate the cause of knee pain/instability

CONTENT OUTLINE:

The focus of this session is on the non-inflammatory approach to the knee, shoulder and hip joints. The inflammatory approach to these joints were covered in the MSK sessions.

Knee

- Review of the knee exam, more focus on ligament/meniscal issues

Shoulder

- Review of the general shoulder exam, with focus on the rotator cuff exam and special tests

Hip

- Review of the components of the hip exam as well as addressing issues such as acetabular impingement, trochanteric bursitis
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<tr>
<td>0800-0900</td>
<td>Presentation on history and physical exam of knee, shoulder and hip</td>
</tr>
<tr>
<td>0900-1130</td>
<td>Supervised practice examination (SPs available for this session)</td>
</tr>
<tr>
<td>1130-1200</td>
<td>Recap the material learned and address any questions that have arisen during the session.</td>
</tr>
</tbody>
</table>

REFERENCES:

- Bates Chapter 16
- ASCM 2 Website
- ASCM Preclerkship Clinical Skills Handbook
OBJECTIVES:

By the end of this session, you should be able to:

1. Obtain a complete and organized history of a patient with back pain
   a. Describe the four syndromes of mechanical low back pain identifiable on initial history.
   b. List the elements in history or on physical examination that suggest a more sinister underlying pathology requiring further investigation (“red flags”).
   c. Describe the questions that allow you to differentiate between inflammatory and non-inflammatoty back disease

2. Outline and justify the required investigation in the case of the patient whose presentation does not fit one of the four syndromes of mechanical low back pain.

3. Identify physical findings compatible with the four syndromes of mechanical back pain

4. Identify physical findings compatible with irritation/compression of spinal cord/nerve roots

5. Identify evidence of inflammatory sacroiliitis/spondylitis (usually longstanding disease)

6. List, in order, the steps in the primary management of low back pain
   a. Select the appropriate physical approach for each presenting pattern of pain.
   b. Demonstrate the basic maneuvers and rest positions for each pattern.

SUGGESTED TIMETABLE:

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<tbody>
<tr>
<td>08:00-09:00</td>
<td>Presentation by Dr. H. Hall for all clinic groups on mechanical back pain</td>
</tr>
<tr>
<td>09:00-10:45</td>
<td>Supervised small group mechanical treatment techniques</td>
</tr>
<tr>
<td>10:45-11:00</td>
<td>BREAK</td>
</tr>
<tr>
<td>11:00-12:00</td>
<td>Teaching session by Rheumatologist. Approach to inflammatory back pain</td>
</tr>
<tr>
<td></td>
<td>Demonstration/practice of key physical examination maneuvers</td>
</tr>
</tbody>
</table>
CONTENT

This session will build on material covered in the ASCM I back session, and this material should be reviewed prior to the session.

The following recommended reading will be especially helpful for those students who have their MSK sessions prior to “Rheumatology week” in MMMD.


REFERENCES:

• Hall H: A Consultation with the Back Doctor. McClelland and Stewart. 2003
• ASCM 2 Website
• www.cbi.ca

RESOURCES:

Four senior physiotherapists will instruct the small group mechanical treatment sessions