

# PHYSIOTHERAPY

-LABORATORY 3-

# **INFLAMMATORY RHEUMATIC DISEASES**

# RHEUMATOID ARTHRITIS (RA)

- \* Though the treatment of RA is complex, multidisciplinary and noncurative, the goal is
  - to maintain function
  - to prevent joint and organ damage until the disease enters remission.

# RHEUMATOID ARTHRITIS (RA)

## Treatment of TMJ arthritis

- \* Is similar to that of RA in other joints.
- \* In the acute stage, NSAIDs may be given, and jaw function should be restricted.
- \* A mouth guard or splint worn at night is often helpful.
- \* When symptoms subside, mild jaw exercises help prevent excessive loss of motion.
- \* Surgery is necessary if ankylosis develops but should not be done until the condition is quiescent.

# JUVENILE RHEUMATOID ARTHRITIS

## Treatment of TMJ arthritis

- \* Progressive jaw ROM (range of motion) exercises may help treat pain and stiffness
- \* If the lower jaw does not develop properly, it may create an overbite. It may require orthodontist intervention and/or oral surgery

# Physiotherapy in RA

## **Spray and Stretch Exercises**

- \* With the assistance of a physical therapist, spray and stretch exercises may relieve arthritis pain in your jaw.
- \* First, the physical therapist will spray a skin refrigerant over the painful area, to numb the skin; he may also use ice to numb the area. After the joint is numbed, a passive jaw motion device stretches the mouth open slowly to bring flexibility to the joint and relax the muscles.

# Physiotherapy in RA

## Assisted and Resisted Opening

- \* These exercises relax the jaw muscles, and bring flexibility to the TMJ.
- \* Begin the assisted opening exercise by placing two fingers on the lower front teeth. Slowly open your mouth wide while pushing down with your fingers. Stop if this becomes uncomfortable. Repeat 10 times.
- \* Begin the resisted opening exercise by cupping one palm under your chin and opening your jaw slowly, while you give gentle resistance with your palm. Repeat 10 times.

# **TEMPOROMANDIBULAR JOINT OSTEOARTHRITIS**





### **Tight Muscles**

The muscles surrounding the TMJ can go into **spasm** (tighten) and cause pain.



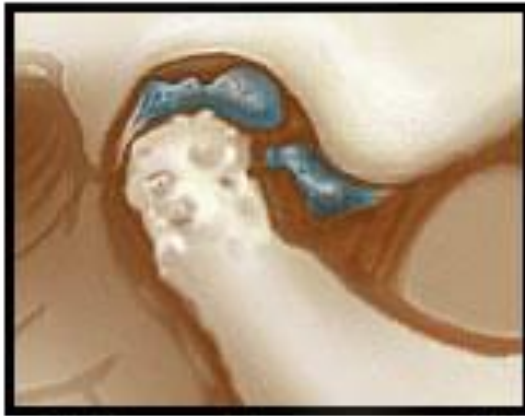
### **Inflamed Joints**

**Inflammation** may include pain, redness, heat, swelling, or loss of function.



### **Damaged Joints**

Many people hear clicking when their jaw moves. If you feel pain along with the noise, the joint may be damaged.



**TMJ joint with osteoarthritis**

**Normal  
TMJ joint**



# Pathogenesis of TMJ OA

- \* **Unstable occlusion** (bite/skeletal disorders, premature teeth contact)
- \* Unstable occlusion increases the activity of masticatory muscles and joint surfaces are loaded during the mandibular movements.

## *Unstable occlusion*

- \* Relationship to the lateral part of the teeth is as following: when the maximum intercuspation of premolars and molars on both sides is achieved, there is a distribution of masticatory forces on all these teeth and load of the joint structures is minimized.
- \* If one/more teeth from this relationship are detached, this increases the force acting on the remaining teeth involved in that intercuspation and, the force transferred to the structure of the TMJ increases.

# Assessment

## The Helkimo clinical dysfunction index (HDI)

- \* It focuses on five basic signs and symptoms in the masticatory system:
  - impaired range of mandibular movement
  - TMJ function impairment
  - pain during mandibular movement
  - TMJ pain during palpation
  - muscle tenderness

# TMJ OA

\* Not always directly correlated with pain or dysfunction.

## Dysfunctions

- affects the important chewing machine
- causes severe pain
- creates disability
- affects nutrition
- affects social and health parameters
- under-appreciated by the public and the health professions.

# Management of TMJ OA

## \* **Physical therapy**

### **Objectives**

- reduction of inflammation
- reduction of pain
- improvement of function

### **Modalities**

- TENS
- ultrasound
- iontophoresis
- ice
- stretch
- neuromuscular therapy
- massage



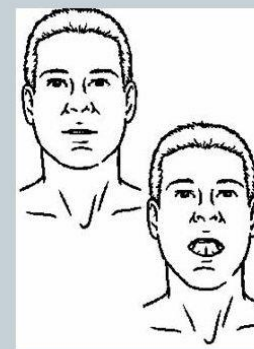




## Examples of TMJ Exercises



Resisted Protrusion



Mandibular Opening without  
anterior translation



Resisted lateral excursion