Rehabilitation of the Rheumatoid Patient

Center for Pain Medicine and Physiatric Rehabilitation

2002 Medical Parkway Suite 150
Annapolis Maryland 21401

1630 Main Street Suite 215
Chester Maryland

410-571-9000
www.4-no-pain.com
Role of Rehabilitation

- obtain maximum usefulness in function
- relief of symptoms
- restoration of mobility and strength
- prevent deformity
- patient education
Modalities

- Compression gloves
- Topical ointments
- TENS
- Acupuncture
- Spa therapy
- Heat and cold
- Hydrotherapy
Compression Gloves

- no effect on hand volume, grip strength, pinch strength, or dexterity
- need to be able to provide at least a pressure of 12 mmHg
- decrease finger circumference
- provide a sense of improved well being

Culic, et al, 1979
Topical Treatments

- **Ben-Gay** (White and Sage, 1971)
  - decreased motor unit activity
  - provide a felling of warmth
  - improved dexterity
  - subjectively decreased pain

- **Capsaicin** (McCarthy and Mcarty, 1992)
  - no effect on RA patients

- **Copper Bracelets** (Walker, Beveridge, & Whitehouse)
  - better than aluminum
  - controversial
  - might not hurt to try
TENS

- short-term benefits only
- frequency is set at a minimum of 70 Hz
- difficult for patient to apply
- improvement of pain after TENS treatments range from 40 to 54%

Mannheimer 1978, 1979; Kumar, 1982; Langley, 1983
Acupuncture

- Difficult to assess efficacy due to limited literature in English-speaking countries
- doesn’t effect swelling, erythema, or ROM
Spa Therapy

- Short term benefits
- not cost effective
- not covered by insurance
- doesn’t hurt to try if patient has access
Therapeutic Heat

- **Superficial**
  - has been shown to decrease intra-articular temperature initially
  - prolonged application (i.e., Paraffin baths) has been shown to slightly increase intra-articular temperature
  - no significant change in swelling, ROM, or strength
  - improves morning stiffness
Deep Heat

- Ultrasound (0.1 W/cm² - 2.5 W/cm²)
  - no study has proven its effectiveness
  - Jan & Lai (1991) demonstrated that in combination with exercise the functional incapacity was decreased

- Microwave (915 Hz)
  - need to maintain joint temperature at 42.5°C for 60 minutes to have an effect
  - has been shown to decrease leukocyte exudate, infiltration, and number of lymphocytes (Weinberger 1989)
Cold Therapy

- subjectively decreases pain on visual analog scale
- no significant change in ROM or strength
Therapeutic Exercise

- programs should take into account:
  - level of local joint and systemic involvement
  - degree of muscle atrophy
  - type of pain
  - patient age
  - compliance
Goals of Exercise

- Strengthen major muscle groups surrounding joints
- improve flexibility
- improve endurance
Rehabilitation of Selective Joints
The Rheumatoid Hand
Types of Deformities

- intercalated segmental collapse
  - DISI
  - VISI - most common
- Intrinsic plus hand
- Swan-Neck
- Boutonniere’s
- Nalebuff Thumb
  - Type I - hyperextension of IP
    flexion of MCP
  - Type II - subluxation of trapezio MCP joint
    hyperextension of IP
  - Type III - subluxation of trapezio MCP joint
    hyperextension of MCP
Treatment

- avoid weightbearing on radial side of hand
- use strongest joint for the job
- proper use of hand
- avoid Ulnar forces
- avoid twisting motion
- avoid tight grasping
- Splints
The Rheumatic Foot
Types of Deformities

- Metatarsal head subluxation
- Tendocalcaneal synovitis
- Pronated
- Hallux valgus
- Hammertoe
- Hallux rigidus
Treatment

- wide toe box
- metatarsal bars
- medial lifts
- NWB orthotics
- AFO’s
The Rheumatic Shoulder
Types of Deformities

- Impingement syndrome
- Rotator cuff disease
- Adhesive capsulitis
- Bicepital tendonitis
Treatment

- Rest, medication, decrease acute inflammation
- Increase strength of major muscle groups of the shoulder
- Neer protocol
- Avoid PROM
- Injection
The Rheumatic Knee
Treatment

- strengthen major muscles groups of the shoulder
- avoid closed chain exercises
- joint conservation
- injection
- TKR
The Rheumatic Elbow
Treatment

- maintain ROM
- serial casting
- avoid surgery
Diagnosis require 4 out of 7

- morning stiffness
- arthritis of 3 joints
- symmetrical involvement
- positive RF
- radiologic changes showing erosion
- arthritis of hands involving PIP joints
- rheumatic nodules
  - poor prognostic factor
Characteristics

- Involvement of the PIP and MCP > DIP
- Soft tissue swelling
- Morning stiffness of approx. 1 to 2 hours
  - Increase in time of morning stiffness can indicate progression or flare
- Loss of ROM
- Dominant hand involvement
- Swan-neck deformities
- Ulnar deviation
Systemic Complications

- Felty’s syndrome
- Pericarditis
- Pleural effusion
- Sjorgen’s
- Pulmonary fibrosis
- Vasculitis
- Crico-arytenoid arthritis
DDx:

- SLE
- Reiter’s
- Erosive OA
- Psoriatic arthritis
- Polyarticular gout
Pharmacological Rx

- First line
  - NSAID’s

- Second line
  - hydroxychlorquine (200 mg BID)
  - sulfsalazide (500mg - 2 gm divided)
  - gold

- Third line
  - methotrexate (7.5 mg - 10mg qD)
  - AZT
Pearls about RX

- Fenoprofen & Indocin have greatest renal toxicity
- Sulindac is least renal toxic
- Motrin is least hepatotoxic but can cause meningitis in SLE
Pearls about Steroid Injections

- **Depo-medrol**
  - doesn’t dissipate well

- **Kenalog**
  - dissipates better
  - has longer action

- **Ratios of steroid to lidocaine**
  - 1:4 for the wrist
  - 1:2 for the shoulder
  - 1:1.5 for the hip