Common Hip Injuries
Introduction to ART

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Course Objectives

To understand the principles and history of Active Release Technique.

To understand hip anatomy and biomechanics of hip movement.

To be able to identify different tissue types and sources of pain.

To analyze hip injury through movement assessment.
Active Release Technique

A hands on touch and case management system that allows the practitioner to diagnose and treat soft tissues.
What is soft tissue?

- Skin
- Fascia
- Muscle
- Tendon
- Nerves
Types of Injuries ART can treat

- Repetitive strains
- Adhesions (in any soft tissue)
- Tissue Hypoxia
- Joint Dysfunction
ART was discovered by Dr. Michael Leahy in 1984
His logic:

Tissue response to varying pressures and movements
Damping coefficient = adhesion, friction, inertia

Forcing function = voluntary contraction

When an injury occurs and an adhesion is the result, the damping coefficient is increased and the time necessary to achieve the result is longer.
Compensation results by increasing the effort.

Movement and Function are altered

Soft tissues with adhesions CANNOT perform normally
FIGURE 3: THE CUMULATIVE INJURY CYCLE

- Weak & Tense
- Adhesions-Fibrosis
- Inflammation
- Tear or Crush
- Decreased Circulation & Edema
- Friction, Pressure and Tension
- Inflammation Cycle
- Chronic Cycle
Law of Repetitive Motion

I = NF/AR

I = insult to the tissues
N = number of repetitions
F = force or tension of each repetition as a % of maximum muscle strength
A = amplitude of each repetition
R = relaxation time between repetition
Breaking down the Adhesions

Other methods have been used including:

- Myofascial Release
- Trigger Point Therapy
- Graston technique

- Only ART has a Federal Patent for its uniqueness and effectiveness
Levels of Myofascial Release

LEVEL 1: tissue positioned without tension, patient passive
LEVEL 2: tissue positioned with tension, patient passive
LEVEL 3: tissue lengthened under contact, patient passive
LEVEL 4: tissue lengthened under contact, patient active
The ART Difference

- ART incorporates MORE than myofascial tissues (50% of the benefits dealt with peripheral nerve entrapment)
- The concept of MFR was often being borrowed, modified and attached to other methods that are misleading.
- Having a secure trademark on ART offered professional protection.
An accurate diagnosis is essential and contains 3 parts:

1. **Nature of the lesion**
   (tear, adhesion, myofascitis, crush, etc)

2. **Exact tissue involved**
   (TFL, joint capsule, etc)

3. **Syndrome caused, if any**
   (Piriformis, ITBFS)
Specificity of Diagnosis

A. Tissue Texture
B. Tissue Tension
C. Tissue Movement
D. Tissue Function
Soft Tissue Changes After Injury

Inflamed.......24 to 72 hours
“Stringy” muscles, lesion defined.......2 days to 2 weeks
Lumpy tissue, palpable adhesions.......2 weeks to 3 months
Leathery tissue, changes slowly.......3 months and beyond
Anatomy Review
Anterior Hip

- Psoas muscle
- Iliacus
- Quadratus lumborum
- Ileopectineal Bursa
- Lumbosacral plexus
- Femoral nerve
Posterior Hip

- Gluteus maximus, medius, and minimus
- Piriformis
- Superior & Inferior Gemellus
- Obturator Internus & Externus
- Sacrotuberous Ligament
Lateral Hip

- Tensor Fascia Lata
- Iliotibial Band
- Vastus Lateralis
- Bicep Femoris (short head and long)
Know your Origins and Insertions
Common sources of Hip Pain

- ITB Syndrome
- Capsulitis
- Lumbar radiculopathy
- Trigger Point referral
Understanding ITB Syndrome

Action:
- hip flexion
- medially rotate & abduct a flexed thigh
- tenses IT tract to support femur on the tibia during standing
- Lateral thigh/knee pain
- Common in runners/cyclists
ITB

Overactive muscles
- Adductors
- Bicep femoris (short head)
- TFL
- Lateral gastrocnemius
- Vastus lateralis
ITB

- Underactive muscles
  - Medial hamstring
  - Medial gastrocnemius
  - Gluteus medius/maximus
  - VMO
Capsulitis

- pain and stiffness usually associated with repetitive motion or blunt trauma
- pain on most passive movements.
  (The pain usually subsides over several months, with restoration of hip joint movements taking much longer)

Responds well to ART
Lumbar radiculopathy

L4/5/S1 superior gluteal nerve
  – Supplies ITB/TFL
  – Hip capsule innervation varies:

  Obturator nerve – medial portion
  Femoral nerve – anterior portion
  Sciatic nerve – posterior portion
Trigger Points

- Gluteus Maximus
- Psoas/Iliacus
- Piriformis
- Gluteus Medius
- TFL
Gluteus maximus
Psoas/Iliacus
Piriformis
Gluteus Medius
TFL
Assessment of Hip

- Mechanism of Injury
- Location of Pain
- Provocation Tests
- Movement Assessment/Squat Test
- Static Palpation
Sources of Hip Pain

What?
- Muscle
- Fascia
- Tendon
- Bursa
- Nerve
- Referred
Location of Pain

Where?
- Lateral
  - Trochanteric bursitis?
  - Compression of the Lateral Femoral Cutaneous nerve? (lifting belt)
  - ITB Syndrome?
  - Trigger Point in the TFL?
Location

- Anterior
  - Tendonitis?
  - Avulsion fracture?
  - Hip flexor spasm
  - Femoral nerve compression
Location

Medial/Groin

- Adductor strain?
- Anterior Capsule Sprain?
- Medial hamstring strain?
- Stress fracture?
- Ilioinguinal nerve impingement?
Location

- Posterior
  - Posterior capsulitis
  - Piriformis Syndrome?
  - Sciatica?
  - Sacro Iliac Joint Dysfunction?
Treatment Options for Soft Tissue Injuries

Passive Care
- Modalities – EMS/US
- Heat/Ice
- Static Stretch
- Massage/Myofascial Release
- Taping
Treatment Options for Soft Tissue Injuries

Active Care
Active Release Technique
Active Stretches
Corrective Exercise
Workshop

Identify Tissue Types

Skin
Fascia
Muscle
Tendon
Nerve
Case Studies

Guess the injury?
Thank you

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