Orthopedic Manual Physical Therapy
Treatment of Joints

Bourassa and Associates
Rehabilitation Center
What is Orthopedic Manual Therapy

• Correction of mechanical disorders of human body.
• Mechanics of human body.
• Three mechanical systems:
  – Joints
  – Muscles
  – Nervous system
Mechanical Problems of Joints

• Joints are the connections between bones

• Joint stiffness
  – Injury
  – Degeneration / arthritis
  – Loss of axis – getting stuck

• Joint looseness
  – Loss of joint support
    • Ligament looseness
    • Capsule of joint looseness
  – Degeneration
    • Loss of cartilage height
Movement of Joints

• Joints move through complicated interactions between joint surfaces
  – Glides, slides and rolls.
  – Need to be positioned in an optimal start position.
  – Move to a certain limit and then stopped by restraints – ligaments and capsule.
    • Ligaments go from one bone to another.
    • Capsule is a bag like covering surrounding joint
Treatment of Mechanical Joint Problems

- Knowledge of the mechanics of specific joint.
- Restore mechanics of joint before can maintain with exercise.
- Orthopedic manual therapists use two main techniques.
  - Mobilization
  - Manipulation
Mobilization and Manipulation

- Mobilization is a slow controlled stretching motion within the range of current motion for pain and into new motion for stiffness.

  - Mobilization Area → Manipulation Area

    - Start of Motion
    - Point of Stiffness
    - Normal End of motion

  - Manipulation is a rapid controlled motion at the point of stiffness, often producing a joint crack.
Manipulation

• Controlled rapid movement into new range of motion.

• Why performed
  – Resetting of optimal joint position if a joint has become stuck outside of this position.
  – Stretching of tearing of scarring in surrounding tissue – capsule, ligaments and muscles.
    • Used after lesser force of a mobilization has not been effective.
What causes the crack?

• Joint manipulation is characteristically associated with the production of an audible 'clicking' or 'popping' sound.
• This sound is believed to be the result of a phenomenon known as cavitation.
• When a manipulation is performed, the applied force separates the joint surfaces, which in turn creates a reduction in pressure within the joint cavity.
• In this low pressure environment, some of the gases that are dissolved in the joint fluid (which are naturally found in all bodily fluids) leave the fluid creating a bubble or cavity, which rapidly collapses upon itself, resulting in a 'clicking' sound.
• The contents of this gas bubble are thought to be mainly carbon dioxide.
• The effects of this process will remain for a period of time termed the 'refractory period', which can range from a few minutes to more than an hour, while it is slowly reabsorbed back into the synovial fluid.
Is there benefit to the crack?

- Not “putting bones back into place”
  - Optimal position can be reset, but joints don’t usually go “out of place”.
- Event causing some muscle relaxation around joint.
- Is a consequence of the force. The force not the crack produces the benefit.
Why do joints need mobilization or manipulation?

- Restore mobility
- Stiff joints are the main reason for pain and lack of function
- Once mobility restored, exercise maintains
- Exercise not effective alone when joint motion is not optimal
What can go wrong with a manipulation?

• Vast majority of time is very safe and helpful.
• Should be used sparingly not regularly.
• Practitioner needs to be well trained.
• Adverse events:
  – Fracture
  – Surrounding tissue damage to ligaments, nerves and blood vessels.
Training of Manipulative Therapists

• Training in university program in physical therapy.

• Post professional training
  – Canadian Academy of Orthopedic Manual Physical Therapy (CAMPT)
  – Diploma of Manipulative Physical Therapy.
    • Intense program of study and examination
Bourassa and Associates Manual Therapy Model

• Teach in both university and post professional program
• Examiners in CAMPT
• Internal mentorship programs to develop and apply
• Supervised practice model
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Other Locations:
Biggar - 113 3rd Ave West
(306) 948-4808

Fort Qu'Appelle - All Nations Healing Hospital
(306) 332-5055

Imperial - 310 Royal Street, Town Office Bldg
(306) 963-2950

Kinderley - 205 Main Street, Kindersley
(306) 463-2012

North Battleford - 982 102nd St, LifeTime Fitness
(306) 445-9200

Outlook - 400 Sask Ave West
(306) 867-2030

Regina - #5 5875 Rochdale Blvd (old
Sherwood Village Mall, now called Rochdale Crossing)
(306) 546-3210

Rosetown - 305 Highway #4 North
(306) 882-2273

Saskatoon Eastside Clinic - 1-325 Herold Rd
(located in Herold Road Family Physicians)
(306) 665-1962

Saskatoon Medical Arts Bldg
(306) 665-1962

Saskatoon Wall Street Medical Bldg
(306) 665-1962

Saskatoon Westside Clinic - #2 3315 Fairlight Dr.
(306) 665-1962

Watrous - 403 Main St, Dr Office on Main St
(306) 946-2074

Wynyard - 218 Bosworth St
(306) 554-2046