

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

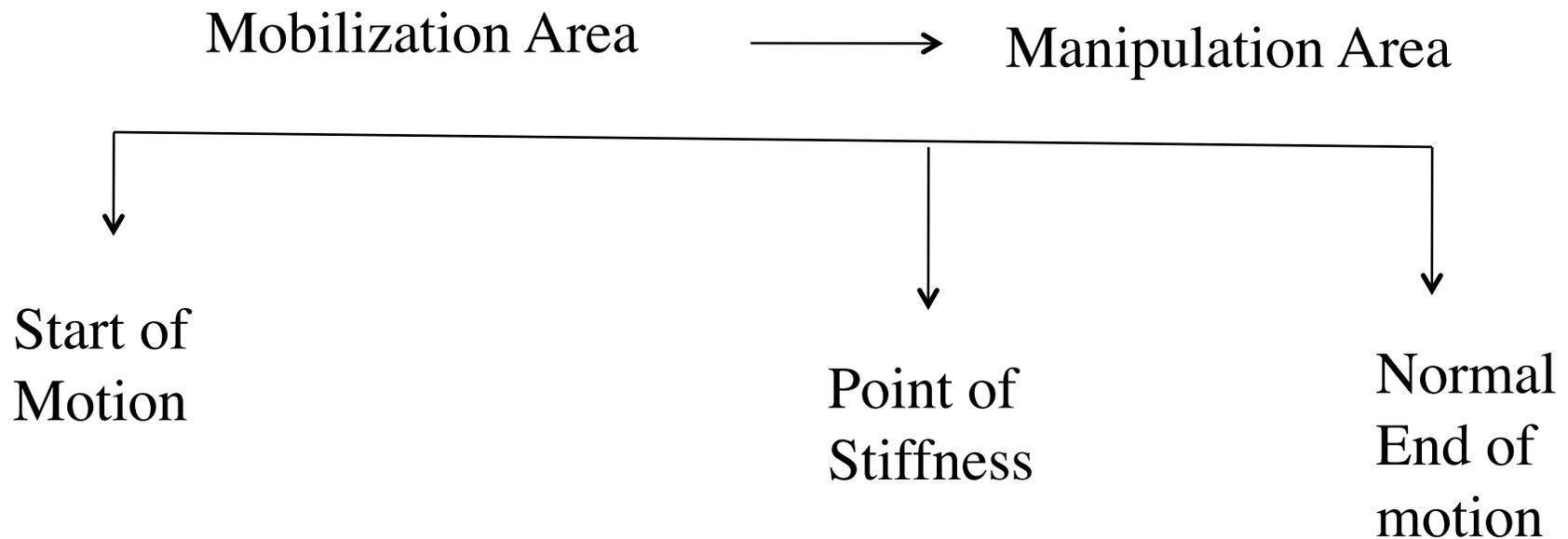
- Joints move through complicated interactions between joint surfaces
 - Glides, slides and rolls.
 - Need to be positioned in an optimal start position.
 - Move to a certain limit and then stopped by restraints – ligaments and capsule.
 - Ligaments go from one bone to another.
 - Capsule is a bag like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



- 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 or 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

Main Location Contact Info:

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[Click here for a map to our location](#)

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) 963-2060

Kindersley - 205 Main Street, Kindersley
Insurance
(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