

TRAUMATIC JOINT APPROXIMATION

Joint approximation is the forcing of articular surfaces of bones sharing a common joint together. Joint approximation occurs naturally in some joints when weight bearing brings bone ends together. In normal circumstances, joint approximation serves to facilitate reflex support by the muscles that cross and help support the joint. It becomes a problem only if the articular surfaces meet with sufficient force to damage them or if impingement on joint soft tissues occurs.

Traumatic joint approximation usually occurs from externally applied force that causes the joint to be extended beyond normal limits (as in elbow hyperextension) or moved into abnormal ranges, as in excessive lateral rotation of the thoracic vertebrae or lateral flexion of the knee. It may also happen if joint articular surfaces are jammed together, as occurs to knees or ankles when landing from a jump with the knees locked in full extension, or if calcium deposits in the joint develop enough to cause the articular surfaces to communicate with one another through them (joint mice, bone spurs, etc.). The results of traumatic joint approximation may include pain, reflexive hypertonus (muscle spasm), or soft tissue injury with its sequelae of inflammation and swelling.

Joint approximation may be used therapeutically to facilitate neuromuscular tonus.

Evaluation of *traumatic joint approximation* is dependent on patient reports, range of motion evaluation, assessment of associated muscle tonus, assessment of soft tissue tenderness over the site of suspected *traumatic joint approximation*. *Additionally*, differential skin resistance (DSR) survey may be used to establish the presence of soft tissue inflammation.

Treatment

Treatment of the sequelae of *traumatic joint approximation* is generally dependent on the treatment of the resulting symptoms and the reduction of the approximation. It is usually directed at decreasing any soft tissue inflammation and swelling, relief of any overt pain and any associated muscle spasm. If the approximation is ongoing, employ treatment techniques that facilitate muscle lengthening (relaxation) and foster joint traction (electrical stimulation followed by vibration with the involved muscles on stretch is a prime example).