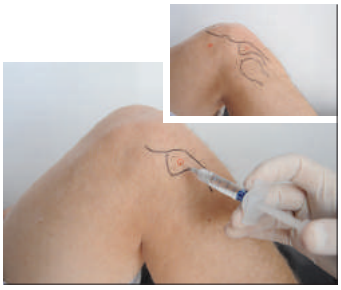
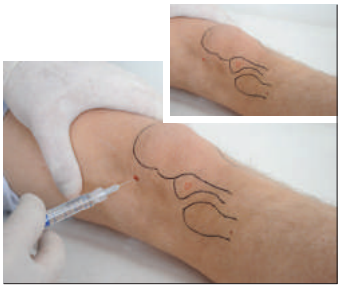


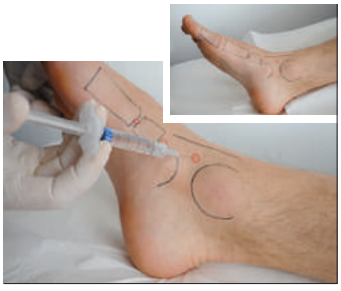
KNEE JOINT - FRONT INJECTION

- **Patient position** Patient lying on the examination couch with head supported and knee bent approximately 90 degrees.
- **Reference point** Patellar ligament, upper edge of lateral femoral condyle and upper edge of tibial plateau.
- **Injection point** The point of least resistance between the lateral edge of patellar tendon and tibial plateau.
- **Needle angle** Parallel to the tibial plateau, angled in the direction of the femoral groove.
- **Remarks** The lateral meniscus is positioned close to the tibial plateau and should be avoided. This form of injection is useful in cases of patellofemoral arthritis. The entire needle length should penetrate the skin and should not encounter any resistance.



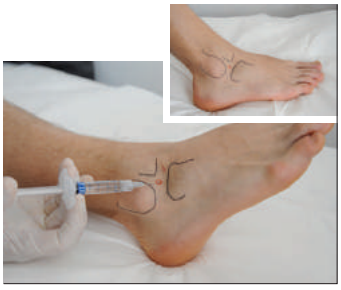
KNEE JOINT - SIDE INJECTION

- **Patient position** Patient lying on the examination couch with head supported and knee extended.
- **Reference point** Upper section of the patella and dorsal edge of lateral femoral condyle.
- **Injection point** The point of least resistance between the upper section of the patella and dorsal edge of lateral femoral condyle.
- **Needle angle** Parallel to the examination couch surface, angled in the direction of the patellar articular surface.
- **Remarks** Useful to apply slight pressure on the medial side of the patella, which rotates and moves the patella laterally. In the event of intra-articular effusion, penetration should be carried out at the point of major swelling created by movement to the patella. The entire needle length should penetrate the skin and should not encounter any resistance. Should the patient experience pain, the point of the needle might well be on the synovial point. In such cases, the direction of the needle should be altered slightly until the pain is no longer felt.



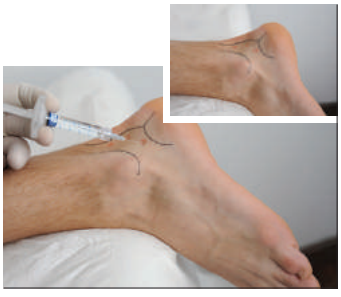
ANKLE JOINT

- **Patient position** Patient lying on the examination couch with head supported, knee extended and ankle in a neutral position.
- **Reference point** The anterior tibial flexor tendon and anterior edge of the tibio-astralgic joint space.
- **Injection point** Average proximal point between the junction of the anterior tibial tendon and tibio-astralgic joint space.
- **Needle angle** Parallel to the articular face of the tibia, angled in the direction of the postero-lateral edge of the joint.
- **Remarks** Pronosupination movement of the foot is useful in order to identify the point of least resistance at the medial side of the anterior tibial tendon. The entire needle length should penetrate the skin and should not encounter any resistance. Should the patient experience pain, the needle tip might well have punctured the synovial tissue. In such cases, change the direction of the needle slightly until the pain eases.



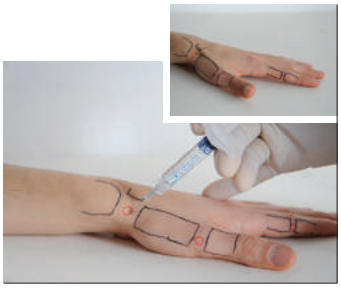
LOWER ASTRAGALIC JOINT

- **Patient position** Patient lying on the examination couch with head supported, knee extended, the lower limb slightly intra-rotated and foot slightly arched.
- **Reference point** Tarsal sinus.
- **Injection point** Lower proximal corner of the tarsal sinus.
- **Needle angle** Parallel to the foot arch surface, in the direction of the rear medial corner of the joint space.
- **Remarks** The tarsal sinus is easily strengthened with the foot in supination position and joint space of the lower astragalic joint is easily strengthened where there is varus and valgus deformity on the heel bone.



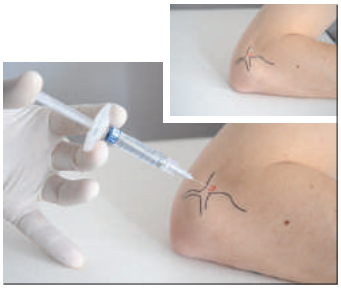
TIBIAL TARSAL JOINT

- **Patient position** Patient lying on the examination couch with head supported, knee extended, the lower limb slightly intra-rotated and foot slightly arched.
- **Reference point** Tarsal sinus.
- **Injection point** Point of least resistance between the lateral edge of the patellar tendon and tibial plateau.
- **Needle angle** Parallel to the foot arch surface, in the direction of the rear medial corner of the joint space.
- **Remarks** The tarsal sinus is easily strengthened with the foot in supination position and joint space of the lower astragalic joint is easily strengthened where there is varus and valgus deformity on the heel bone.



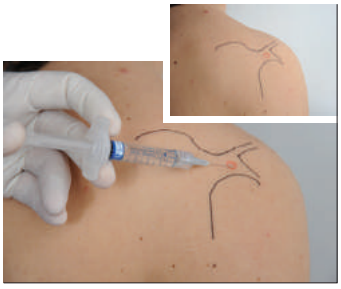
TRAPEZIOD-METACARPAL JOINT

- **Patient position** Sat on the examination couch with knee bent at an angle of 90 degrees and arm slightly pronated.
- **Reference point** Base of the first metacarpal bone.
- **Injection point** In proximity to the base of the dorsal side face of the first metacarpal bone at approximately the centre of the joint.
- **Needle angle** Perpendicular to the articular surface, angled in the direction of the centre of the joint.
- **Remarks** Flex and extend the arm to aid identification of the joint space. It is worthwhile applying slight abduction to the hand and position the thumb slightly under traction.



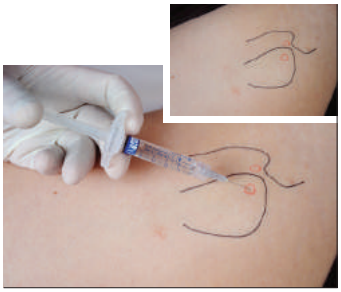
HUMERO-RADIAL JOINT

- **Patient position** Sat on the examination couch with knee bent at an angle of 90 degrees and forearm pronated.
- **Reference point** Epicondyle.
- **Injection point** Slightly higher then the epicondyle.
- **Needle angle** Angled downwards at an angle of 30 degrees.
- **Remarks** Medication is distributed along an arch of approximately 180m degrees, both above the finger extensor tendon and the short radial extensor muscle of the wrist, and below at the height of the epicondylar periosteum.



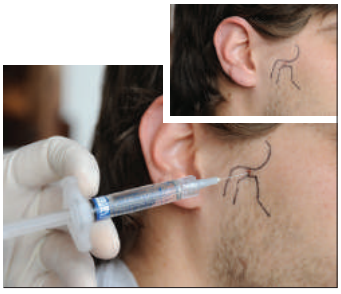
SUBACROMIAL SPACE

- **Patient position** Seated.
- **Reference point** Lower postero-lateral edge of the acromion.
- **Injection point** The initial point of acromion anterior curvature.
- **Needle angle** Angled slightly upwards in the direction of the centre of the space.
- **Remarks** The point of least resistance should be used. Recommended when pain is primarily due to tendon-muscle palpation of the supraspinous ligament.



HIP JOINT

- **Patient position** Patient at rest, lying to one side and on the side opposite to that of the injection, with hips and knees bent at an approximate 40-degree angle.
- **Reference point** At the emergence of the great trochanter.
- **Injection point** Along the imaginary extension from the anterior inferior Iliac spine.
- **Needle angle** The needle should be inserted at a right angle to the base support surface.
- **Remarks** The top of the great trochanter is normally immediately positioned under the cutaneous profile (with the exception of patients with severe adiposis) and it might well be necessary to withdraw the needle a few millimetres once the surface of the bone has been reached to avoid any significant resistance to the injection.



TEMPORO-MANDIBULAR JOINT

- **Patient position** Seated with the head slightly rotated.
- **Reference point** Mandibular condyle, mandibular pit of the temporal bone.
- **Injection point** In front of the eye, below the zygomatic process in the mandibular pit of the temporal bone.
- **Needle angle** Angled slightly upwards.
- **Remarks** Ask the patient to open and close the mouth in order to identify a depression formed in the articular seat.