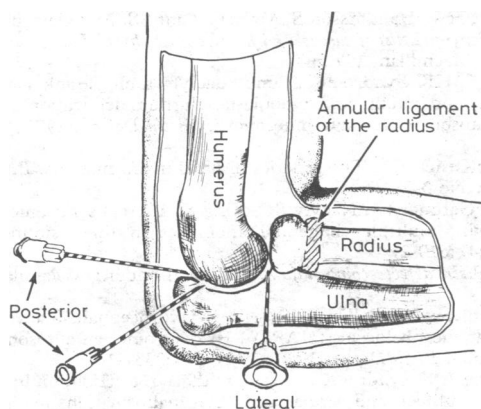


Procedures in Practice

PETER WILLIAMS
MICHAEL GUMPEL

ASPIRATION AND INJECTION OF JOINTS (2)

Elbow

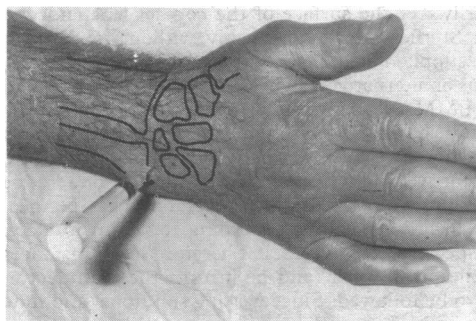


Care is needed to differentiate between the possible sites of pain. Tennis and golfer's elbow are the common reasons for injection. The elbow is not an easy joint to inject, except in the presence of an effusion. The lateral approach is just proximal to the radial head, with the elbow flexed at 90°. Palpate the radial head while rotating the patient's hand, and locate the proximal end. Insert the needle between this and the lateral epicondyle at about 90° to the skin. The posterior approach may be used, again with the elbow at 90°, with the needle aimed between the olecranon process and the lateral epicondyle.

Tennis elbow—Carefully locate the site of maximal pain over the annular ligament of the radius and muscle attachments to it or to the lateral humeral epicondyle. Using a green or blue needle, infiltrate (with considerable pressure) 25 mg hydrocortisone acetate and 1 ml local anaesthetic in and around the area of maximal tenderness, reinserting the needle down to bone in several areas without completely withdrawing it. After some five minutes check that the local tenderness has disappeared. A second injection is often needed after a few days.

Golfer's elbow—Once again, carefully localise the maximal point of tenderness at the insertion of muscles into the medial epicondyle of the humerus and medial ligament, and inject as for tennis elbow. Remember to palpate and avoid the ulnar nerve in the groove below the medial epicondyle.

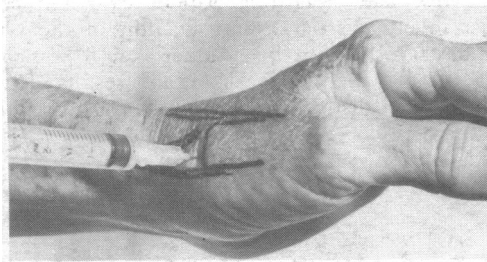
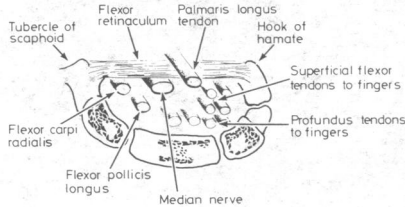
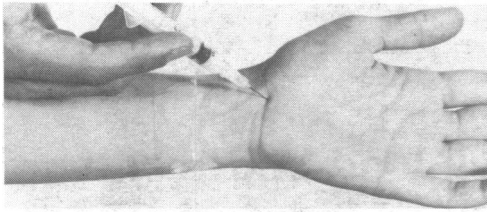
Wrist



The easiest site for injecting the wrist is just distal to the ulnar head, on the dorsal surface of the wrist and slightly inside (to the radial side). In theory several separate synovial cavities may exist, but in practice, particularly with persistent synovitis, usually all of these interconnect. Carefully palpate the space between the ulnar head and the lunate, and insert the needle at right angles to the skin between the extensor tendons to the ring and little fingers to a depth of about 1.0-1.5 cm. With careful palpation and marking the needle will slip into a space between bones. The usual dose is 25 mg hydrocortisone acetate.

De Quervain's tenosynovitis—Tenosynovitis may occur in synovial sheaths surrounding the tendons of extensor pollicis longus and occasionally abductor pollicis longus as they pass through the extensor retinaculum on the dorsum of the wrist, and is usually apparent as a tender swelling along the tendons. Carefully palpate the swelling and insert the needle almost parallel to the skin, aiming it into the centre of the swelling. If the needle point is in the tendon injection will be difficult. Gradually withdraw the needle, with gentle pressure on the plunger, until free, easy flow occurs. The usual dose is 25 mg hydrocortisone acetate, but volume may be a problem: inject slowly, especially after 0.5 ml.

Hand

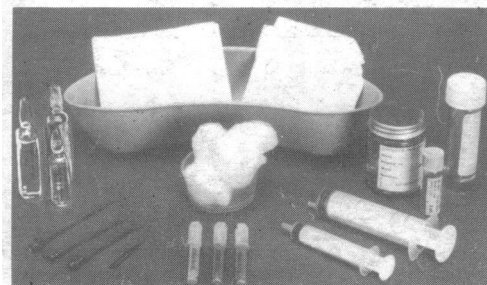


Carpal tunnel—On the palmar surface of the hand the carpal tunnel is bridged by the flexor retinaculum, which runs between the hook of the hamate and crest of the trapezium. These bony points are easily palpated at the level of the distal transverse skin crease. Insert the needle at right angles to the skin at this level, preferably closer to the hamate on the ulnar side, to avoid the median nerve, which is close to the trapezium, and superficial veins. The usual dose is 25 mg hydrocortisone acetate.

Palmar flexor tendons—Tenosynovitis of the finger flexor tendon sheaths may present as pain and difficulty on flexing the finger or as trigger finger. In the former case the tendon sheath feels thickened; in trigger finger a nodule on the tendon may be felt “popping” as the finger is flexed and extended. Carefully palpate the tendon in the palm with the fingers extended; insert the needle at the proximal skin crease of the finger, almost parallel to the course of the tendon and pointing towards the palm. Then proceed as for De Quervain’s tenosynovitis.

First carpometacarpal joint of thumb—Palpate the proximal margin of the first metacarpal bone in the anatomical snuff box: flexion of the thumb into the palm of the hand will widen the joint space. Select a site between the long extensor and long abductor muscles; locate and avoid the radial artery. Insert the needle, pointing it at the base of the little finger, to a depth of about 1 cm. The usual dose is 25 mg hydrocortisone acetate.

Percutaneous synovial biopsy of knee



Synovial biopsy is much simpler than open biopsy and usually yields equivalent information. Use of the Parker-Pearson biopsy needle has been described in other joints but in practice is confined to the knee. The following instruments are required on the trolley: a Parker-Pearson needle, small scalpel blade, saline, local anaesthetic, choice of needles and syringes, sterile pack, and gloves.

Generously infiltrate with local anaesthetic an area medial to the upper half of the patella down to the synovial membrane. If synovial fluid is required for diagnostic purposes withdraw it at this stage and replace it with 20 ml of saline. If the joint is not well distended with fluid simulate an effusion with 20 ml saline.

Incise the skin with the small scalpel needle and insert the cannula and trocar through the incision and through muscle into the joint. Reassure the patient that he may feel pressure but not pain, and infiltrate with more local anaesthetic if necessary. The cannula and trocar can usually be felt passing through the synovium, and synovial fluid will run from the cannula as the trocar is withdrawn. Angle the trocar into the suprapatellar pouch and insert the biopsy needle, so that the specimen is from the synovium under the quadriceps muscle. It is helpful to press the synovium down on to the needle with the heel of the hand and to move the cannula and needle to excise tissue rather than pull it off. The needle is then withdrawn, and synovium may be lifted out with a hypodermic needle. If the cannula is left in several specimens may be obtained.

This is the second and concluding part of this article; the first part appeared last week.

Dr Peter Williams, MB, MRCP, is a medical registrar at Northwick Park Hospital, Harrow, Middlesex HA1 3UJ; and Dr Michael Gumpel, BM, FRCP, is a consultant physician and rheumatologist at Northwick Park Hospital and at Mount Vernon Hospital, Northwood, Middlesex.