

## HAND SURGERY OVERVIEW

The ascendancy of man over other animals can be attributed to the development of language and the evolution of the hand. It is suggested that the earliest advantages of the latter were the ability to swing or throw objects as weapons. These early evolutionary developments have provided us with a hand unique for its opposable thumb and precision grip that also allow the use of a wide range of tools.

Our ability to function in modern society is significantly influenced by our manual abilities. A functional hand requires that it has a normal structure, that it be mobile, powered, sensate and comfortable. Dysfunction results from absence or loss of parts of the hand, stiffness, weakness, numbness or tenderness. The causes of dysfunction include birth defects, injury and infection, arthritis and the degenerative effects caused by use and age.

Hand surgery has evolved as a separate speciality but incorporates skills and techniques from both plastic and orthopaedic surgery. This reflects the complex anatomy and the technical demands of surgery. The reparative and reconstructive techniques used include microsurgery; grafting and transfer (skin, tendon, artery, bone and nerve); joint procedures including stabilisation, fusion and replacement. It relies upon close liaison between surgeons and hand therapists because of the specific and sometimes complex rehabilitation needs.

The primary focus of treatment is to restore function but also where possible to improve appearance. Hand surgeons work across the age ranges dealing typically with congenital anomalies such as syndactyly in infancy and childhood; trauma such as fractures and tendon injuries in young adults; conditions such as carpal tunnel syndrome, tumours and Dupuytren's contracture in older adults; and arthritis in the elderly. Treatments offered include, where appropriate, non-operative and minimally invasive alternatives such as wrist arthroscopy, needle aponeurotomy (fasciotomy) and endoscopic carpal tunnel release. Advice is continuously available to manage urgent problems including tendon ruptures, infections, extravasation injuries and pain syndromes.

