division is performed to allow total gut assessment, not in the hope of curing or preventing symptoms. A single tough band like adhesion should, however, be divided to prevent possible strangulation. In my opinion there is no scientifically reliable evidence in man that washing out the peritoneum or instilling antiseptics, anti-inflammatory drugs, or antibiotics reduces adhesion formation.

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Wellcome developments in tropical medicine

The seemingly conflicting aims of Sir Henry Wellcome to provide educational entertainment for the casual visitor and serious research material for the student continue to be fulfilled by the Wellcome Tropical Institute. Established by the Wellcome Trust in 1984 the institute is working, firstly, to update and develop the Wellcome Museum of Medical Science and, secondly, to help governments and universities in the tropics to run their own courses in tropical medicine and to develop continuing education for medical officers away from teaching hospitals.

The two ventures are closely intertwined. As well as revising existing museum material and acquiring fresh exhibits the institute hopes to hold special exhibitions every two years on topics of current interest in tropical medicine. The first, on malaria, opens next week and is both visually striking and informative (p 709). It has clear, detailed diagrams and micrographs of the stages in the life cycle of both the anopheles mosquito and the plasmodium parasite and a broader overview of the problems of control and treatment. As well as inviting sixth formers and undergraduates to visit the exhibition the institute is sending copies of the exhibition panels to medical schools in Africa. Schools in Nairobi and Addis Ababa have already received material.

More ambitious is the institute's aim to develop a distance learning programme for continuing postgraduate education. The programme, devised for district medical officers in rural areas, is being worked out in collaboration with governments and universities to ensure that the methods of self instruction, including slide-sound and video, are suitable. As Dr Alan Knell, deputy director of the institute, points out, sending display materials over is easy compared with implementing the programme at the other end. More input and organisation are needed. Nevertheless, plans are progressing, and Dr Knell hopes that programmes will start later this year in Kenya and Addis Ababa. Sir Henry, I feel, would approve.

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Through the carpal tunnel

The carpal tunnel syndrome is the commonest entrapment neuropathy, affecting the median nerve as it lies between the carpal bones, the flexor tendons, and the unyielding transverse carpal ligament. A general practitioner may expect to see on average two patients each year with the syndrome.¹ It affects women between two and 10 times more often than men, is most common between 30 and 50 years of age, and is bilateral in one third of patients.¹

The carpal tunnel syndrome is secondary to other conditions in 10-50% of patients, and in general practice it is seen most often with pregnancy, the premenstrual syndrome, and obesity. The tunnel may be narrowed by disruption of its bony architecture, by thickening of the synovium and flexor tendon sheaths, or by tumours and deposits. Thus the syndrome may be secondary to Colles' fracture and other bony deformities (as first described by James Paget²); to rheumatoid arthritis, and arthritides caused, for instance, by rubella, or to tuberculous tenosynovitis; to lipomas, and to amyloid or tophaceous deposits; and to the increased venous engorgement caused by inserting an arteriovenous shunt for haemodialysis. General conditions that affect the carpal tunnel include myxoedema, acromegaly, diabetes, polycythaemia vera, and haemolytic anaemias.

Diagnosis in general practice depends on an accurate history, examination, and various provocative tests. In hospital these are supplemented by electrodiagnosis. The characteristic symptoms are nocturnal tingling and pain in the thumb, index, and middle fingers of one or both hands; the paraesthesia may spread to other fingers, the hand, and the forearm and may be accompanied by numbness. Often symptoms are precipitated by unaccustomed use of the hands and initially are relieved by shaking the hand or hanging it out of bed. Stiffness or clumsiness of the fingers is experienced by less than half of patients, and few complain of swollen fingers.

Usually nothing abnormal is found on examination. Thenar wasting is present in only one third of patients, and less than one sixth of patients have objective hypoaesthesia of the finger tips. Provocation tests are thus an essential adjunct to diagnosis. In the Phalen test symptoms are produced or exacerbated by complete flexion of the wrist for 30-60 seconds.³ A positive Tinel's test demands producing tingling in the fingers by gently tapping the area over the median nerve in the wrist. In the tourniquet test a blood pressure cuff applied to the upper arm is inflated above systolic blood pressure for 60 seconds; the production or exacerbation of symptoms in the fingers means the test is positive. Nerve conduction studies may show reduced conduction velocities in the median nerve as it crosses the wrist, with changes in sensory nerves preceding those in motor nerves; distal motor latency time may be prolonged. Alternatively, results may be within normal limits but show slower nerve conduction on the affected side.

Gellman and colleagues have recently assessed the sensitivity and specificity of provocation tests in comparison with electrodiagnosis.⁴ Phalen's test was most useful—positive in three quarters of patients and falsely positive in only 20% of controls. The tourniquet test was the least reliable—only 65% of patients were positive and 40% of controls were falsely positive. Tinel's percussion test was interesting because, although relatively insensitive with only 44% of patients positive, it was highly specific with only 6% of false