GENERATIONS of doctors have warned that the art of clinical examination is in danger of atrophy—and they have always been right. It is a “disuse atrophy” that is particularly common in orthopaedics. Because radiographs have a lot to contribute, the whole of diagnosis is often put upon their shoulders, and the large (often unique) contribution of clinical examination is overlooked.

The knee has suffered particularly from this clinical neglect and three distinct errors have emerged. Firstly, it is supposed that the knee is a superficial joint and therefore easy to examine; certainly the front is superficial but the back is deeply situated and is correspondingly neglected. Secondly, the knee is regarded as a single joint with consequent emphasis upon the tibio-femoral compartment; but mechanical disorders are more common in the patello-femoral compartment and it needs separate and special examination. Thirdly, it is sometimes supposed that mechanical derangement can rarely be pin-pointed with precision before operation, and that nearly all operations for such derangements are essentially exploratory; unless this myth is exploded clinical methods will decline still further. Occasionally something unexpected is found at operation, but this is no excuse for throwing overboard careful pre-operative clinical examination. A detailed consideration of the clinical methods that contribute to diagnosis in the knee would be out of place in an editorial, and here we emphasise only a few points which are commonly neglected.

To listen is to learn. Too much prompting implies pre-judgment and pre-judgment means prejudice. We all pay lip service to a careful history, but how many of us are patient enough to elicit one? And yet a majority of mechanical disorders almost diagnose themselves to the attentive listener. Let the patient tell his own story—after all it is his story and it should unfold like a story; in many foreign languages the word for “story” is the same as that for “history”. Like all good stories, it should begin at the beginning; the first untoward incident is all-important, for a knowledge of the stresses to which the joint was then subjected enables us to deduce the probable site of damage.

The stages of clinical examination are familiar—inspection, palpation and so on; but these polysyllables are relics of the dark ages of medicine—part of the mumbo-jumbo designed to conceal ignorance and confuse the illiterate. Nowadays we “look”, “feel”, and “move”. To look at only one knee is absurd; man is biped—and how considerate of nature to provide a normal for comparison. But nature did not provide trousers and these must be removed. Unless the patient’s trousers are taken off the surgeon is liable to be caught with his pants down. Rolling the trousers up is useless, and with modern tailoring virtually impossible.

Feeling the knee should not be a process of pointless prodding or casual stroking. The skin, soft tissues and bones are methodically palpated, first with the knee straight, then
with it bent. The precise relationship of tender points to the joint line and ligamentous attachments often indicates the site of the lesion and is much easier to determine with the knee flexed. Both the patient's knees are therefore flexed till the soles of his feet rest comfortably on the couch; for once the surgeon can sit while examining a joint, and if he rests his buttocks on the patient's feet mutual stability is assured.

The familiar movements of the knee are easy to examine but rotation is often carried out too haphazardly. We should begin by observing the rule of right angles; the hip is flexed 90°, the knee flexed 90° and the foot held at 90° to the leg. Then the surgeon's left hand is placed on the knee to steady it and to feel what happens when the right hand rotates the foot and leg. Rotation must, of course, also be tested at other angles and with superimposed lateral stresses, particularly when a meniscus lesion is suspected. Cruciate ligament injuries are often missed either because the surgeon neglects to test for them or because he tests inadequately. When testing in the flexed position the index fingers should be thrust well up behind the knee so as to detect and overcome spasm of the hamstring muscles, which otherwise hampers proper assessment of antero-posterior glide.

The patello-femoral joint is so important and so commonly disordered that, unless it is examined almost independently of the rest of the knee, errors of omission creep in. How many surgeons appreciate that nearly two-thirds of the back of the patella can be palpated, provided the bone is pushed to either side and the muscles are relaxed? The two cardinal tests of patellar disorders are the 

*friction test* and the *apprehension test*. With the friction test the patella is pressed backwards and moved both up and down and from side to side; clicking and grating are of far less importance than pain, which indicates damage to the patellar articular cartilage. The

*apprehension test* is demonstrated by pressing the patella laterally with one hand while the other gently flexes the knee. Recurrent dislocation or subluxation is readily revealed by the look (of apprehension) on the patient's face. Failure to perform these two simple tests probably accounts for about 20% of the diagnostic errors in examining the knee joint.

No examination of the knee is complete until the back of the joint is included and for this purpose the patient must lie on his face. Bursae, ganglia and cysts are often best examined with the patient prone. Moreover, in this position the *grinding test* and *distraction test* are so easy to perform, and without them confusion between meniscus and ligament injuries commonly occurs. The patient's thigh is anchored securely by the surgeon who places his own knee upon it. The patient's leg is then bent to a right angle and rotated; during rotation it is first pushed downwards (compression) and then pulled upwards (distraction). Compression relaxes the ligaments but imparts a grinding force to the meniscus (hence the term "grinding test"), which produces pain when that structure is at fault. The combination of rotation and distraction releases the meniscus from stress but strains the ligaments, and when these are abnormal the distraction test is positive.

A careful history, thorough and methodical clinical examination and good radiographs—these are the pre-requisites of diagnosis. Occasionally no firm diagnosis is possible, and yet the nature of the disorder may warrant operation—namely, exploration. But the surgeon who explores without first carefully reviewing the possibilities, is, like his Polar equivalent, a mere adventurer—a surgical buccaneer. We may accept that the initials "I.D.K." stand not only for "Internal Derangement of the Knee", but also for "I Don't Know"; we should not and must not accept that they stand for 'I Don't Kare'.

A.G.A.
Editorial: Intelligent Kneemanship

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