the power of the flexors then we go ahead and do an orthopaedic fusion of the wrist. We subsequently carry out arthroplasty or any other procedure which is indicated.

The second question was about carpal tunnels or flexor synovitis in the later stages. We have been fortunate so far in that we have not yet encountered this, although it is obviously something that may happen some time. If the patient has any suggestion of carpal tunnel compression or synovial proliferation on the flexor side, we deal with this as a preliminary before undertaking the arthroplasty.

The final question touches on the crux of the whole thing: has skin any advantage over silastic skid pads? Quite obviously it has or we should not use it; at least we think it has or we should not use it! In the first place the use of skin is founded on general principles. As plastic surgeons we have seen and removed over the course of years various materials from the human body—polyurethane, silastic, Tantalum gauze, steel and various lumps of different types of material; and although silastic is reputed to have been put into and to have stayed in the breast, the nose, and even the fingers, for years, we do see reactions. On general principles we feel that to put in autogenous tissue (quite apart from being cheaper, which it is by a long, long chalk) is probably a good thing to do, and so we started off by using it and have found that advantages accrued. One must have a spacer. I think this is quite obvious. If you cut off the ends of the bones something must separate them. What you choose may be the Brannan Klein prothesis—which is a complicated and expensive piece of metal and which even Adrian Flatt, its chief protagonist, admits never gives more than about two-fifths of the central range of movement. Alternatives like silastic protheses and other forms of artificial material require first of all a spacer and secondly a prong to go down the medulla of the metacarpal and proximal phalanx in order to provide rigidity. We prefer dermis on first principles and we prefer not to put anything down the shaft to provide rigidity if we can achieve this by tendon transfers, and this is the purpose of the indicis transfer, the abductor section, the plicating of the head, and the crossed intrinsic transfer. So overall we feel dermis has the advantage. With the few silastic implants of the Swanson type which we have done we have had rather poor results, not in any way comparable with those achieved by dermal arthroplasty.

DR. A. G. S. HILL (*Stoke Mandeville*) I should like to echo what Mr. Bailey has said. If one is thinking in terms of autogenous versus man-made materials, one should frame the question: 'What advantages has silastic over skin?', rather than the other way around, even though in terms of time the use of skin in this particular situation came after the use of silastic.

DR. G. NUKI (*Glasgow*) In your list of alternatives I think you missed out the Vainio arthroplasty in which the tendon is used as the interposing material. What is your opinion of this operation?

MR. BAILEY It is a splendid form of arthroplasty and we have used it. Like the Fowler operation it is very difficult, but those who often practise it achieve some quite magnificent results with it. We have found that by the time we have cut off the end of the bone, put the

tendon down, reunited the tendon, transferred the collateral ligaments and sewn it up again, 2 to 3 hours of tourniquet time has gone by. Unless we were prepared perhaps to sacrifice our first dozen, fifteen, or twenty cases knowing that the tourniquet time would be too long, I can not see how we should gain the expertise to do the job as rapidly as Vainio does by now. He is one of the few people who do many Vainio arthroplasties; it is a very good one based on sound principles, but it is very difficult and not quick enough. One can get through a dermal arthroplasty in an hour and 10 minutes, doing all the metacarpophalangeal joints of one hand.

DR. A. ST. J. DIXON (*Bath*) One very simple question. Why must you have a spacer at all? Mr. Kates, who is here, does a somewhat (to me as a physician) similar-looking operation in the feet, yet no spacer is put in and the toes can come back to very good function afterwards.

MR. BAILEY One very simple answer. You have not the 90° range of movement at the metatarsophalangeal joints that you have at the metacarpophalangeals.

MR. K. M. BACKHOUSE (*London*) I would agree with Dr. Dixon. In fact you do not need a spacer if you have good bone ends and a good muscle transfer as you are doing, or in the modification that we do, if the bone ends are not totally removed. I should, however, like to challenge you on this problem of the removal of pain by taking out all the synovium. In fact, if you have a lot of nasty bone-end and grating occurs, then patients may be in pain simply because the synovial pad has been removed, if you don't give a spacer. What you have done in fact, is to put in a beautiful surface lining which gives freedom of movement and then, which is far more important, allows the muscles to act effectively to carry out that movement.

Assessment of Clinical Methods of Evaluation and Isotope Techniques in Analgesic Trials in Rheumatoid Arthritis. By W. CARSON DICK, R. NEUFELD, M. GRAYSON, A. PRENTICE, A. WOODBURN, K. WHALEY, G. NUKI, and W. WATSON BUCHANAN (*The Centre for Rheumatic Disease and the University Department of Medicine, Royal Infirmary, Glasgow*).

A double-blind triple crossover study of indomethacin, aspirin, and placebo was undertaken. Ten patients took part in the trial for a period of 3 weeks, each receiving one of the treatments each week: thus each patient experienced all three treatments during the trial. Six methods of assessment were used: the Ritchie articular index, knee score, ring sizes, grip strength, radio-technetium peak uptake, and radioactive Xenon clearance rate. Analysis of variance techniques was employed to determine which methods best discriminated between the three treatments.

Discussion

DR. J. S. LAWRENCE (*Manchester*) You did not mention the erythrocyte sedimentation test at all. I presume this test was carried out?

DR. DICK It was not carried out. We were forced to draw the line somewhere. This was more a methodologi-

cal assessment, and we wanted to see what would happen given six indices.

DR. A. K. THOULD (*Truro*) It has been shown that, where you run one drug so quickly and for such a short period after another, you get a very considerable run-off effect from one drug to the next, and this might of course explain the difficulty in trying to differentiate between the effect of indomethacin and aspirin. Did you take that into account?

DR. DICK The patients were treated for 1 week in each instance and assessed at the end of that week. They themselves were able to tell the difference. I think that might answer your question. In anti-inflammatory drug assessment it may simply be that we should pass out the drug to a sufficient number of patients and ask each patient at the end of the day. If they can differentiate, then clearly we have an answer. Whether we can measure it or not is another matter.

MR. M. K. JASANI (*Horsham*) You claim that the patients' preference would have been as reliable a guide as any of the other tests. If so there are two questions which come to my mind. First, were the drugs aspirin and indomethacin as well as the placebo given as identical capsules? And secondly, would the patient's preference tell you whether the drug is an anti-inflammatory agent or whether it also has other effects which just give a feeling of well-being?

DR. DICK To take the second question first. I suspect that it would be very difficult to separate the analgesic, anti-inflammatory, and euphoric effects in these drugs. Clearly, if we were to give lysergic acid or something

which would alter the mental state, this would have a profound effect on patient preference but would show less change in the technetium count. To answer the first question, the doses were not given in identical capsules.

DR. V. WRIGHT (*Leeds*) We have recently been looking over one of our old trials to try to evaluate the Lansbury Systemic Index in the same way, by analysis of variance. I may say that this trial was on indomethacin against phenylbutazone. We have never felt that it is ethically justifiable to withhold all treatment from patients and that is why we use the Lansbury Index, because it allows them salicylates if they need them. It has been interesting that, when you apply this sort of analysis and take along with it the patients' grading of their pain, most of the information can be obtained from the patient's evaluation of pain and the second most useful measure is the amount of aspirin they will take on an unlimited basis. This agrees fairly well with what you have been saying.

DR. R. M. MASON (*London*) Have you any evidence that your patients were in fact taking the tablets? Did you do any monitoring? Because some of the inconsistent results might very easily have been due to the fact that the patients were not taking the tablets or the capsules.

DR. DICK I am certainly aware how often patients do not take their drugs, but in this instance the results were not all that confusing. They were concordant in most cases. When the patients felt better and objective methods demonstrated an anti-inflammatory effect in so many cases, one may presume that they were taking the anti-inflammatory preparation.