SOME OBSERVATIONS
ON CONGENITAL DISLOCATION OF THE HIP

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The entity passing under the name of congenital dislocation of the hip is so complex that the sense of privilege in contributing to this special issue of the Journal in honour of Sir Thomas Fairbank does not completely offset a feeling of awe engendered not only by the occasion but also by the vastness of the subject. With a similar feeling Isaak Walton must have approached his task of writing the COMPLEAT ANGLER. In a letter of dedication to his patron, John Offley, he said “Sir, this pleasant curiosity of fish and fishing, of which you are so great a master, has been thought worthy the pens and practices of divers in other nations that have been thought men of great learning and wisdom; . . . I do freely confess that I should rather excuse myself than censure others, my own discourse being liable to so many exceptions against which you, Sir, might make this one, that it can contribute nothing to your knowledge.” At the opening of his address to his readers, Walton said: “I think fit to tell these following truths: that I did neither undertake nor write nor publish and much less own this Discourse to please myself; and having been too easily drawn to do all to please others, as I propose not the gaining of credit by this undertaking, so I would not willingly lose any part of that to which I had just title before I began it, and do therefore desire and hope if I deserve not commendation yet I may obtain pardon.” Isaak eased his way through an ambitious project by introducing a novice Venator who attached himself as a Scholar to the expert angler Piscator. At appropriate intervals the novice asked a question of his chief in order to clarify a point or to change the theme.

A similar device might ease my own way in this discourse on some aspects of congenital dislocation of the hip. May we imagine that a senior surgeon of experience—Mentor—is talking to an enquiring student who has the good sense to be interested in orthopaedics.

Mentor—in the time available to us we cannot deal with the whole of this subject, so we must select parts. It seems appropriate to discuss those aspects in which knowledge has advanced, or in which understanding has increased since orthopaedic surgery was recognised as a speciality. Just over thirty years ago Vittorio Putti, Robert Jones and Thomas Fairbank were teaching and training young men in the treatment of congenital dislocation of the hip against a background of the work of Lorenz, Schanz and Codivilla.

We need spend little time on etiology. Controversy is still active between the geneticists and the environmentalists, though certain facts of geographical and racial distribution seem to favour the geneticists. Nevertheless their explanation why usually girls are stricken is not altogether satisfying; and the experimental work on the artificial induction of congenital defects cannot be ignored. It may be that a combination of both factors ought to receive more attention, because possibly there is a genetic flaw which may be boosted by adventitious factors. Such a flaw might affect one or other or both major components of the hip joint and operate in widely varying degrees. Thus at one extreme there would be gross deficiency of the pelvic and femoral components, and at the other a deficiency so slight as to be revealed only as growth continued or by the stresses of advancing age.

Consider this case of absence of one half of the pelvis (Fig. 1) and this example of absence of the upper three-quarters of the femur (Fig. 2): this bilateral coxa vara with gross deficiency of the neck of one femur, and a relatively mild aberration of growth in the other (Fig. 3): or this bilateral dysplastic dislocation of the hip (Fig. 4): and compare them with this mild dysplasia of both hips in which osteoarthritis is only now beginning at the age of thirty-five, in a patient hitherto untroubled (Fig. 5). A case is recorded of a patient seemingly normal
Figure 1—Congenital absence of half the pelvis. Figure 2—Congenital absence of the upper three-quarters of the femur.

Figure 3—Bilateral congenital coxa vara: gross defect in the neck of one femur and aberration of growth in the other. Figure 4—Gross bilateral dysplastic congenital dislocation of the hip.

Woman aged thirty-nine years. Dysplasia of both hips. Increasing pain in the right hip during the last five years.
at birth in whom during the subsequent five years defects developed leading to coxa vara. We might consider the possibility of a common basis for developmental affections of the pelvis and femur, including congenital dislocation of the hip.  

Student—These are deep waters. It would be interesting to turn to something more tangible. For example, what is the best treatment for congenital dislocation of the hip?  

Mentor—A simple answer to this question is quite impossible. It is necessary to know the age of the patient as well as the type or stage of the dislocation, and whether it involved one hip or both. Details of treatment have changed many times but the objective and the principles remain unaltered. The objective to be gained is normal function. The principles are to secure reduction as early as possible by the simplest and most gentle means, and to maintain it until growth has made it lasting.  

Granted these principles, the detail of any particular pattern of treatment is less important than the average age at which it is begun. In 1925 and for some years after that the usual age at which children were brought for treatment was about three and a half years: today the average age is much nearer twelve months. It is now well recognised that few perfect hips can be achieved in any large number of children first treated at the age of about three years—certainly not much more than 40 per cent; whereas if treatment is begun at the age of about twelve months this figure should reach 80 to 90 per cent. The importance of being early is clearly paramount. The age when treatment begins will depend upon the dislocation first being suspected; suspicion leads in turn to investigation, diagnosis and treatment.  

It has been said that if every new-born baby were examined for the possibility of congenital dislocation of the hip, treatment would always start within a few months of birth. It has also been said that limitation of abduction of the hip at this age is significant, and that radiographs will reveal dislocation whenever present. There are fallacies in these statements. Limitation of abduction may be difficult to determine in a little baby and it may be present in conditions other than congenital dislocation of the hip—for example in arthrogryposis, spastic hemiplegia or paraplegia, and congenital coxa vara. On the other hand, and for obvious reasons this is the more important, it may not be present in congenital subluxation or the milder degrees of dislocation. Moreover radiographs may not be capable of exact interpretation even by most experienced observers. I well remember hearing Putti give an account of the earliest diagnosis on record. Because of the prevalence of congenital dislocation in her part of northern Italy a mother sent her baby only twelve hours after delivery to the Rizzoli Institute: she feared that one hip might be dislocated. Clinical and radiographic examination suggested that the hip was indeed dislocated but Putti said that he could not be sure. The mother, anxious to suppose her child normal, seized on this uncertainty and declined treatment. A year later she brought the child for examination again and there was then no doubt.  

Student—Is then the check to abduction movement of no value in diagnosis?  

Mentor—Certainly it is of value, but a feeling of this check to abduction is only one of the straws to show which way the wind blows. Another is the unusual appearance of the leg, which seems to be slightly externally rotated: yet another is elevation or duplication of the crural crease; and when the child kicks as babies do, the affected side tends to circumduct in flexion. There may be asymmetry when there is dislocation of only one hip, but not of course when both joints are displaced. It may sometimes be possible to elicit telescoping, but at such an age this is not fully reliable, especially when the joint is only subluxated. Fortunately a decision need not rest upon one examination alone. The prudent course is to arrange for re-examination after a time long enough for the signs to become more definite—but short enough not to prejudice the result. If there is doubt, a few months of treatment in abduction is better than further temporisation with the danger of missing the opportunity of a complete cure.  

Student—Accepting that the age of detection affects the outlook, could you now deal with treatment?
Mentor—I would prefer first to indicate the types of dislocation. These have become more clearly differentiated during the period we are considering. Then we shall have in our minds pictures of the different types, and we can see that not only the age but also the type of displacement affects the treatment we may employ, as well as the result that may be expected. We must of course remember that the more severe displacements of the hip are usually recognised at an earlier age; but even so it is doubtful whether this offsets the difficulties of creating a normal joint. The lesser displacements, though more easily restorable to normal, tend to escape notice; and therefore unless some collective action is undertaken by the community the best chances of ultimately securing a very high proportion of normal hips may continue to be lost.

Student—Do you then recognise two types of dislocation—the mild and the severe?

Mentor—The fact of the matter is that I recognise three types: the good hip with mild displacement, the good hip with severe displacement, and the frankly dysplastic hip. By mild displacement I mean a dislocation in which the abnormality is less than minimal, if such a thing is possible—in other words so slight that one may have to act almost on suspicion. In the typical case the child will be not more than a few months of age, and attention will have been attracted by one of the signs already mentioned. Radiographic examination may have shown that the ossific nuclei of the femoral heads are not present on either side, or if present they are unequal, and the femoral shafts may be slightly shifted laterally, and there is a defect in the upper lip of the acetabulum, perhaps too slight even to raise the acetabular index. Such a hip is only in a position of subluxation, or as it has been called "pre-dislocation" (Fig. 6).

The second type is that in which all the classical signs are present. Of course they become more noticeable as time passes. It seems likely that whereas the very mild type to which I have already referred if neglected becomes the classical subluxation, this second or moderate type of displacement is, in fact, a dislocation from the beginning. Certainly the signs are present at a very early age. Probably the two most clinically reliable signs are the shift upwards and outwards of the leg and the telescoping. You will appreciate the difficulty of confirming other signs, such as shortening, elevation of the trochanter, and dorsal displacement of the femoral head, which are either uncertain or difficult to elicit in small children who do not tolerate long examinations. Radiographs show that there is some displacement of the femoral head; the capital epiphysis is small; the shift upwards and outwards is moderate; the acetabular lip is deficient but not markedly so; and the neck of the femur is at a reasonable angle to the shaft (Figs. 7a and 7b).

In the third type all the classical signs are well defined. The asymmetry in unilateral dislocations, the abnormal position of the legs in relation to the body in bilateral dislocations, the alteration of movement, the hollow in Scarpa's triangle, the gluteal prominence—all these are very obvious. Radiographically the changes are much more than an exaggeration of the second type. The head of the femur is well up on the dorsum ilii, and the capital nucleus is undersized or in earlier cases may not be showing at all. Even if the condition is bilateral, retardation of growth of the capital epiphysis will still be quite obvious. Moreover the defect in the upper part of the acetabulum may be so great that the slope from the depth of the
Figure 7a—Girl aged eighteen months. Second type, i.e., “the good hip severely displaced.” Left side.
Figure 7b—Example of same type: bilateral dislocation.

Figure 8
Girl aged two years. Third type: “the frankly dysplasic hip.” Bilateral.

acetabulum to the blade of the ilium is almost uninterrupted: the angle between the neck and shaft of the femur is minimal: the false acetabulum is apparent at an early stage (Fig. 8). I suggest that this last type is basically different from the first two types, and that such dysplasia exists embryonically rather than foetally. It is interesting to note that the defect of the acetabulum involves mainly the ilium, and that the defect spreads beyond the acetabulum proper. Look at this tracing of the radiographs of a child aged eleven months who unfortunately died shortly afterwards of epidemic enteritis (Fig. 9). Incidentally the angle of anteversion in the dislocated hip was only 5 degrees greater than in the normal hip (Fig. 10). This water-colour drawing is of the dissected pelvis of that child (Fig. 11). It will be seen that the acetabular defect involves mainly the iliac segment; it is gross, for instance the anterior inferior iliac spine is absent; and although the child had never walked the capsule had already “travelled” upwards, the ligamentum teres being several times its normal length.

Student—May we now come to treatment?

Mentor—It is a pleasant relief to turn to treatment. It is clear that the first type, if it is detected early, can be treated very simply and that a normal hip should be restored. Retention in abduction by one of the well known frames or any similar apparatus is quite enough. Care must of course be taken that the head is properly centred in the acetabulum.

In the second type, which I have suggested may arise in foetal life, treatment has to be
Figure 9—Tracing of radiographs of a child aged eleven months who died shortly afterwards of epidemic enteritis. Figure 10—Diagrammatic drawing of dissected pelvis of the same child showing the very slight difference in the degrees of anteversion.

Figure 11
Water-colour drawing of dissected pelvis of the same child aged eleven months. In addition to the defects mentioned in the text, note the adventitious fat in the base of the acetabulum. The capsule "C" has been divided and retracted. In order to facilitate comparison a mirror image of the right (normal) hip is shown.
modified according to the age at which it is commenced. Up to about the age of eighteen months, closed manipulative reduction is simple, and easy, and the prognosis is good. The technique of reduction has not changed in the last thirty years. The hip is reduced with the thigh in the position of flexion to a right angle and in slight adduction. The surgeon applies traction with one hand to the thigh, and with the other maintains pressure over the trochanter, thus easing the head gently into the acetabulum, the final move home being accompanied by a few degrees of internal rotation of the femur.

The method by which the head is retained in its proper position is a matter of individual preference, but one or two points should be emphasised. On no account should immobilisation involve undue stress. It must be remembered that while the hip has been dislocated the main adductor and flexor muscles have assumed a length which is too little when the dislocation is reduced. Thus tension is caused when abduction is forced. The resulting tension is translated into pressure by the head of the femur against the acetabulum, and reaches its maximum when abduction is at a right angle to the mid-line and the thigh lies in the coronal plane. This is unfortunately regarded as the "frog position" and may well be a significant factor in the onset of osteochondritis of the femoral head. If the thigh is a few degrees above the right angle, and if the thigh is similarly a few degrees in front of the coronal plane, the pressure is not excessive. This point at which the head is quite safe and not subjected to excessive tension can easily be appreciated by the operator's hand. Moreover in this position the capsule is relatively lax; whereas in what is sometimes regarded as the frog position (but which I think is an exaggeration of the original "frog") and also in a position of forced abduction and internal rotation, the capsule is either tense, or twisted in such a way as to occlude its blood vessels. In my opinion osteochondritis of the femoral head is more likely to be the consequence of occlusion of the vessels by torsion or tension of the capsule than of direct pressure on the head itself. This strangling effect may occur not only at the time of the first manipulative reduction and in the first position of immobilisation, but also at the first change of position when the limb is replastered, especially if this is done abruptly or with any degree of force. The change of position at various stages of treatment must be so gradual as to allow time for adjustment of the capsule to the new position.

Student—Is there not a movement towards tenotomising the adductors with a view to minimising the stress in the hip?

Mentor—Yes, and this is intriguing because it seems possible so to achieve stability with only a moderate degree of abduction. But I wonder why this tenotomy was abandoned thirty years ago after it had enjoyed such a long period of popularity. As a matter of fact it was just going out when I was coming in. Probably the question might repay re-examination. In the meantime a tendency is developing which appears very promising. This is the practice of avoiding prolonged recumbency. The child is first rigidly protected with the legs nearly in the coronal plane and is able thus to crawl about. At a relatively early stage movements of the hip joints, still with the legs prevented from moving forward from the coronal plane, are permitted and encouraged. There seems little doubt that although the total period of protection cannot be materially reduced because it must be provided until growth has reached a certain stage, nevertheless the difficult period of varying length between full immobilisation and full activity, which the older regime involves, is rendered easier and shorter, and in fact may be avoided altogether.

It is obvious that in certain cases of this second type of dislocation the pattern of treatment may be varied. For instance such hips have been reduced and retained in good position without any manipulative reduction under anaesthesia, the gradual traction and the retention being provided by a Thomas's splint. I remember during the second world war, when it was difficult to provide in-patient treatment, that some such children were treated thus as out-patients (Figs. 12 to 17). But it is doubtful whether it is applicable in general, and with constantly changing nursing staff it is also doubtful whether it is safe as a routine.
Figure 12—Girl aged eighteen months. Left congenital dislocation of hip. Second type. Figure 13—Same patient as Figure 12, two months later. Treated as an out-patient. Dislocation reduced by traction on Thomas's splint.

Figure 14—The same patient four months later. Note commencing formation of acetabular roof. Figure 15—The same patient six months later, i.e., after twelve months' treatment (as an out-patient). Note increasing growth of acetabular roof.

Figure 16—The same patient three months later, i.e., after fifteen months' treatment. Marked improvement in the acetabular roof. Figure 17—Two years later, i.e., after three and a quarter years from commencement of treatment.acetabular formation practically normal.
Student—All this that you have just said is on the assumption that the patient was very young and that the dislocation was of the second or foetal type—that is to say, definite though not marked and severe. Supposing that the child were older, say two and a half or three years, or that the dislocation were of a rather more severe grade, would you expect in such a case to obtain reduction quite easily in the way that you have described?

Mentor—At the first attempt, no. It must be remembered that the manipulation has to be gentle. On no account must force be used. If without force the hip cannot be reduced, the attempt should be abandoned and traction should be applied to the leg for about fourteen days. A second attempt at reduction may then be successful. But if this is still not possible without using force, the same procedure should be repeated after a second fourteen days. Even then reduction may be unsuccessful but one would have gained from the manipulations (and the radiographs) a picture of the dislocation and what is preventing reduction. I would then undertake an open operation and would expect to find that complete reduction was prevented either by a large fold of capsule or by a pad of adventitious fat. At such a stage one would not find what one does find later—namely that the acetabulum is not of an appropriate size or shape to receive the head. Even when open operation is performed it is necessary for the head to fit into the acetabulum without undue pressure between the two.

Student—Would you not have taken an arthrogram?

Mentor—No. I am not able to learn enough from such a procedure to justify its use. The shadows are too variable to indicate more to me than can be learned from good plain radiographs and stereoscopic views, and from my hands when attempting to reduce the hip. By learning from the hands I mean that it is possible to know whether the head can be made to reach the acetabulum, whether the acetabular rim is well or poorly developed, and whether there is some obstruction inside the acetabulum.

Student—You have made no mention of constriction of the capsule to which I think the description “hour-glass” has been applied.

Mentor—I do not believe that such a constriction commonly exists. I have opened a great many hip joints but I have never seen a true hour-glass constriction. I think the appearance of a constriction could be caused by twisting the capsule in rotating the leg. I think also that the lower part of the capsule can be drawn across the acetabulum in the same way as a small bag attached to the rim of a golf-hole, for instance, would, if drawn to one side, occlude the hole. (And I must say when one is playing golf it sometimes seems as if there were an invisible bag drawn across the mouth of the hole.) It might be thought that the constriction has not been recognised because of the small size of the structures in childhood and because the tissues are soft and blended one with the other. But if the constriction is there in childhood it would persist into adult life. My experience with the congenitally dislocated hips of adults has been that the capsule is loose and voluminous—there is certainly no constriction.

There remains the third type, which we have called the severely dysplasic or embryonic type, with appearances approaching those seen in arthrogryposis. If such a case is seen very early, it will yield to the measures outlined above. But if it is seen later, at three, or two, or even one and a half years of age, it may present a very difficult problem. This is because not only is the acetabulum in its upper part grossly deficient, and the head poorly formed and the angle of head and neck undeveloped, but the soft tissues are so contracted, or rather of such inadequate length, that reduction can be obtained even by open operation only at the expense of too great a pressure stress between the head and the acetabulum. The inevitable result is a stiff hip. If such a dislocation is unilateral it may be quite reasonable to accept this stiffness as preferable to a dislocation with its attendant and progressive instability. But if the dislocation is bilateral it is quite unjustifiable to risk two stiff hips. In fact a great authority has gone so far as to say that in a bilateral dislocation of this type, in a boy, the dysplasia is likely to be so great that it is better to leave the hips alone and to deal with any disability at a later stage.
It would perhaps be as well for me to emphasise that in all cases, after open reduction, the hip should be placed, and the limb immobilised, nearly in the anatomical position; then if stiffness supervenes, an important part off uction will be preserved. If on the other hand stiffness occurs with the leg fully abducted, a very different and difficult problem is created.

Student—Have you had experience of this stiffness?

Mentor—in my own patients, no; but on a few occasions I have had to deal with it in others and they made a very marked impression on me.

Student—What procedure did you adopt?

Mentor—I did nothing—just that. There is something about these children apart from the physical which introduces an unknown factor. They are very often an only child, fair-haired and of pale "fragile" complexion. It is as if they react badly to stress. Active treatment like manipulation and passive movements and so on appear to provoke a greater reaction. If they are left to themselves and reassured and provided with some amusing or entertaining diversion, movement gradually returns and a reasonable functional position is achieved. It takes a long time, perhaps as long as two years, and great patience is necessary. While we are on this point perhaps I might give you a warning against open operation immediately after some months of immobilisation. The condition of the soft tissues at such a time will cause them to react unfavourably to the trauma of operation. Also there is a definite limit to the period over which traction should be continued if open operation is contemplated. This is because osteoporosis occurs in the head and neck, and cortical bone seems to turn into eggshell.

Student—What place do you give to rotation osteotomy to counteract anteversion?

Mentor—I am far from being convinced of the value of rotation osteotomy. I believe that there is no place at all for it in the early stage: if the hip is properly reduced, natural remodelling occurs with a return of normal activity. Fortunately Nature is so determined and bone growth is so responsive that the effects of a surgeon's interference soon disappear, "and like this insubstantial pageant faded leaves not a wrack behind,"—or at least only a plate or two and some screws. "De-rotation" may be useful at a later stage, but of more importance is the production or provision of a varus angle in place of the valgus which usually accompanies the type of dislocation we are imagining.

Perhaps I ought to say a word about anteversion. It may be a mistake to imagine that the head and neck pivot on the shaft, and that anteversion will thus cause the head to protrude forwards. Rather must the shaft and the neck pivot on the head. If this is carefully centred in the acetabulum, and kept so for a sufficient time, anteversion cannot cause it to dislocate. On the other hand it is clear that valgus of the neck (in relation to the shaft) can easily cause the head to dislocate, because the head is sliding up the very part of the acetabulum which is deficient. If by osteotomy the valgus is transformed into a varus angle, the thrust of the head and neck into the acetabulum is made normal. Anteversion may be partly or wholly the result of persistent dislocation. In a girl suffering from Still's disease, whose hip had dislocated at the age of five years, anteversion developed to such an extent that at ten years, when open operation was performed, the anteversion had reached 65 degrees (Figs. 18 and 19).

Student—These points need consideration. You keep referring to the head being "centred" in the acetabulum: how can you know this is so in very young patients before the head has appeared radiographically?

Mentor—Well, you have your hands and also you can see in the radiographs that the neck is pointing in the right direction.

Student—I see. And now to return to the question of persistent or recurrent dislocation. Are there not in addition cases in which the neck-shaft angle is good, and yet the hip persistently dislocates even after successful reductions?
Mentor—Of course there are. Obviously, if the upper part of the acetabulum is deficient and remains so, the head will dislocate when the anatomical position of the leg is reached, and especially when the child begins to walk. And there are cases of subluxation which unfortunately, though naturally, tend to be discovered only relatively late. These are the patients for whom acetabuloplasty is reasonable and useful. Two types of operation have attracted me. First was the Fairbank “shelf” operation. I have studied some results of this in patients on whom it was performed twenty-odd years ago. Two or three years after operation, as cinematograph records show, many were very satisfactory. It has so far been possible to trace only six of these but they have given me much food for thought. It seems that we operated on patients whom we would certainly leave alone today (Figs. 20 to 24). I wonder also whether, after acetabuloplasty of a severely abnormal hip, anything like a normal joint is ever maintained into adult life. It is true that a proportion even of those ultimately poor radiographically were functionally much better than if they had been left alone. Consider, for instance, the girl whose hips are here illustrated (Figs. 25 to 28). She has lived a normal life, and now twenty years after operation she has no pain, she does all her work and can walk “any distance.” But for practical purposes might she not have had an arthrodesis of her hip some fifteen years ago? I think that if acetabuloplasty is to be really useful it has to be performed early—except possibly for a subluxation, and then, a shelf just brought comfortably over the unreduced head would be reasonably worth while.

The second type of acetabuloplasty is known as a “Colonna” and has relatively lately come into prominence. In certain instances it has given extremely good results. Its attraction lies in the fact that it brings the head, and therefore the shaft of the femur, nearer the mid-line of the body and so into direct thrust of body weight. The late effects are not yet known. The indications for acetabuloplasty and which type to perform are still being clarified. Broadly speaking it seems to me that up to about five years of age the Colonna method may well be preferable, and after that the Fairbank type. But we may be wrong to expect too much of these operations and we must recognise that there is a limit to the age at which this sort of interference will do good. I would for instance be chary of making fair promises about a child over six years of age with bilateral dislocation. Moreover it may not be unreasonable to perform an osteotomy at a relatively early age if the disfigurement is considerable and the gait grotesque. I have done so at twelve years and have been completely justified by the late result (Figs. 29 to 33).
Figure 20—A girl aged seven years. Untreated bilateral congenital dislocation. (The late Professor McMurray’s patient.) Figure 21—The same patient as Figure 20. One year after closed reduction of right hip. Left hip could not be reduced and a shelf operation was performed.

Figure 22—The same patient as Figures 20 and 21. Six months after shelf operation on left hip. Figure 23—The same patient one year after shelf operation on left; two years after closed reduction of right. Both hips now dislocated.

Figure 24
The same patient fifteen years later. No pain but marked limp.
Figure 25—The right hip of a girl aged fourteen years, showing untreated dislocation. The left hip was normal.

Figure 26—The same patient as Figure 25. One year later. The right hip has been reduced by prolonged traction and a shelf operation performed.

Figure 27—The same patient nine months after shelf operation. Figure 28—The same patient twenty years after shelf operation. She has no pain, does all her own work and can walk "any distance."
Figure 29—A girl aged nine years. Untreated. 1930. Figure 30—The same patient. Closed reduction of dislocation.

Figure 31—The same patient two years after "successful" reduction. Redislocation. Lorenz osteotomy performed. Figure 32—The same patient six months after osteotomy.

Figure 33
Same patient twenty-two years after osteotomy. She walks with only a slight limp, does a full day's work as a shop assistant and keeps house for her husband and three children. Up to five years ago would frequently do a twenty-mile walk, but latterly her walking distance has diminished somewhat.
Figure 34—A woman aged thirty-eight years. Right hip very painful. Figure 35—The same case one year after formation of acetabulum and insertion of acrylic prosthesis. Figure 36—Condition two and a half years after operation. The hip is stiff and painful.

Figure 37—A woman aged forty-one years. Radiograph two years after Lorenz osteotomy on the right side. Figure 38—The same patient as Figure 37. Radiograph twenty-four years after osteotomy. Has had occasional "rheumatic" pain but never sought treatment because she could walk "any distance" using a stick.
**Student**—Would you say something about the necessity and the form of treatment for the late effects of congenital dislocation of the hip?

**Mentor**—You mean about thirty-five to forty years of age? I ought first to say that in certain instances no treatment at all is required. Not infrequently one sees men and women with congenital dislocation of the hip, unilateral or bilateral, who are not complaining of any disability. Quite recently a woman with gross bilateral dislocation attended hospital with one of her children who had sustained some minor injury. The woman was forty-five years old, with a family of four children, and in addition to looking after them she had augmented her husband's income by going out to work. I mention this because the fact puts a limit on the amount and extent of surgery which is justifiable in infancy.

But not all patients escape trouble. Sometimes the dislocated hip itself becomes arthritic and painful and disabling. Many authorities have issued a warning that surgery should be undertaken only for such disability and not merely to relieve limp. Sometimes in cases of unilateral dislocation the affected hip is not complained of, but arthritis has developed in the opposite hip, which originally seemed sound. This is because the instability of the affected hip has thrown extra stress, with resultant excessive wear and tear on its fellow.

Let us first consider this latter type. Reluctant as one is to operate on a part of the body not giving rise to complaint, I have found that stabilisation of the dislocated hip relieves the osteoarthritic hip on the other side to such an extent as to avoid any further treatment. Stabilisation in such a case should be obtained by osteotomy because it would be a mistake to lose all movement by performing an arthrodesis lest the osteoarthritic hip should deteriorate in spite of the relief that has been afforded. I do not advocate arthroplasty with an acrylic prosthesis because, although extremely interesting and quite impressive radiographic appearances can be obtained, the function generally is not good (Figs. 34 to 36).

We have still to consider the management of bilateral dislocation at this middle age. It may be reasonable to perform an arthrodesis on one side, but it must be remembered that this may be difficult because of the poor pelvic bone.

**Student**—What do you mean by “poor”?

**Mentor**—The word is used in the sense of hard, thin, sclerotic bone with little osteogenic capacity. Obviously arthrodesis should not be performed on both hips, and if both are painful one at least should certainly be treated by osteotomy. It may in fact be as well to do this for both hips, and in a patient with two painful hips I personally would prefer to perform first an osteotomy on the more painful side. Some freedom of action with the other would be retained. Osteotomy, though unlovely radiographically, is extremely efficient functionally (Figs. 37 and 38).

It is interesting that osteotomy for painful and severely deformed congenital dislocation of the hip in middle life was the practice at the beginning of the period we are considering, thirty years ago. Although in this particular respect we seem to be back where we started, it does not mean that our knowledge is no greater.

**Student**—Could you now, Sir, summarise what you have said?

**Mentor**—It is this: Be gentle, be cautious, be patient. Remember the objective of treatment, the principles governing that treatment, and remember that in the management of congenital dislocation of the hip, as of other conditions, there is not one way: rather are there many ways from which you must choose the most appropriate to your patient and to the condition as it presents itself in that patient.