

- 2 -

THE SURGERY OF INFANCY

By James H. Nicoll, MB, CM Glasg

From *THE BRITISH MEDICAL JOURNAL*, Sept. 18, 1909; 753-754

THE SURGERY OF INFANCY

By JAMES H. NICOLL, M.B., C.M. GLASG.,

Surgeon, Western Infirmary; and to the Royal Hospital for Sick Children, Glasgow.

I DESIRE to bring forward certain views concerning surgical operations in infants and young children, and it may be well, in the first instance, to indicate the basis on which such conclusions as I have arrived at have taken shape.

As influencing my opinions, doubtless the experiences of some twenty years of private surgical practice, and of my wards in the Western Infirmary, have been factors; but I desire to found myself mainly on the out-patient practice of the Glasgow Royal Hospital for Sick Children, in which for some fifteen years I have been in charge of a clinic. During the past ten years (1899 to 1908 inclusive) the work in that clinic has included some 9,000 operations (strictly, 8,988), of which 7,392 have been performed by myself. They have embraced operations for many of the usual affections of childhood, which in a city such as Glasgow naturally include a large proportion of cases of surgical tuberculosis of bones, joints, and glands. Amongst others, however, there have been 610 operations for talipes (tarsectomy, tarsotomy, astragalectomy, and tendon operations); 406 for hare-lip and cleft palate; 36 for spina bifida; 23 for depressed birth fracture of skull; 18 for congenital stenosis of pylorus; 167 for mastoid empyema; 143 for ligature or resection of internal jugular vein in course of radical mastoid operation or excision of cervical glands; and 220 for hernia, inguinal, umbilical, and ovarian (during the past five years only).

As bearing on the conclusions come to, it may be noted (1) that all the 8,988 cases were treated as out-patients after operation, and (2) that nearly one-half of them were children under 3 years of age, a large proportion of them being infants of under a year. Certain series of the cases have been from time to time published as bearing on special subjects, and, in connexion with spina bifida and hydrocephalus, birth fracture of skull, hernia of ovary, pyloric stenosis, ligature of jugular, etc., will be found in the BRITISH MEDICAL JOURNAL, *Annals of Surgery*, *Glasgow Medical Journal*, *Edinburgh Medical Journal*, and other periodicals.

The conclusions to which experience of these cases has led are mainly five; and if I put them in the form of pleas rather than of opinions, it is not that I doubt their soundness, but that I have found adverse criticism not wanting, though less pronounced of late. They are as follows:

I.

That a much larger share of the operative work of a children's hospital than is even now so treated should be done in the out-patient department. In the light of the results obtained at the Glasgow Children's Hospital I have no alternative to the opinion that the treatment of a large number of the cases at present treated indoor constitutes a waste of the resources of a children's hospital or a children's ward. The results obtained in the out-patient department at a tithe of the cost are equally good. Discrimination in the choice of cases for out-patient operative treatment is, of course, necessary. Certain cases are unsuitable. As a rule, the unsuita-

ble cases are found amongst children as opposed to infants. A few instances in illustration must suffice. Osteotomy for rachitic bones, and excision of the knee and hip for tuberculous arthritis are inadmissible as out-patient operations. Both classes of operation belong to childhood, not to infancy. Cleft-palate operations in suckling infants do well as out-patients, but the child of 3 or 4 must go into the wards, where care can be taken to prevent his putting hard edibles into his mouth.

II.

That the cases relegated to the out-patient operating theatre should be largely infants and young children. I express deliberately an opinion which I believe to be well founded when I say that in children under 2 years of age there are few operations indeed which cannot be as advantageously carried out in the out-patient department as in the wards, and that, while the number increases with each year, the increase is not great until the age of 5 is reached. Infants and young children in a ward are noisy, and not infrequently malodorous. The main idea in their admission is the supposed benefit of "trained" nursing. That benefit is largely wasted on them. In the case, for instance, of a child of 18 months after herniotomy or abdominal section, the idea that in hospital he is kept lying quietly on his back largely obtains. Further, if he will not lie quietly he may be fixed on a splint. My experience has been that more often than not he is "all over the bed" directly the nurse's back has been turned on him, and that, if "splinted," his crying and struggling put fresh strain on the sutures. Continuous quiet rest on the back on the part of a young child in pain is a pretty idea, rarely obtainable, and not specially necessary after such operations. After operation in the out-patient room, such young children, with their wounds closed by collodion or rubber plaster, are easily carried home in their mothers' arms, and rest there more quietly, on the whole, than anywhere else. They are visited at home by the hospital sisters and brought back to have the dressing removed at the end of a week or ten days. And I go as far as to say that, with a mother of average intelligence, assisted by advice from the hospital sister, the child fares better than in hospital.

III.

That sucklings and young infants should remain with their mothers after operation. To add to a surgical illness, necessitating operation, the ordeal of weaning is largely to increase the chances of a fatal issue, more particularly in acute cases, in which, to apply the term "weaning" at all to the sudden separation of the child from mother is to largely deprive it of significance. Even when the child is "bottle-fed" separation from the mother is often harmful.

For seven years I have had a small house, near the Glasgow Children's Hospital, for the accommodation of young infants and their mothers. The mothers are catered for, and themselves nurse their infants. My experience of the cases so treated has been such as to make me confident in the opinion that no children's hospital can be considered complete which has not, in the hospital itself or hard by, accommodation for a certain number of nursing mothers whose infants require operation.

The foregoing opinions have reference to the practice of surgery in the cases of children. Working in a children's clinic on the lines indicated, I find that I have

gradually formed two further opinions which bear on the practice of surgery in general, and which opinions have been formed by others from other points of view of the subject.

IV.

It has not surprised me to learn of late that many of our leading surgeons in this country and abroad do not prepare the part for operation until the patient is actually under anaesthetics on the table. In a children's out-patient clinic preliminary preparation of the skin is impracticable, and our experience in my clinic at the Glasgow Hospital proves that it is superfluous. If I retain it in my wards in the Western Infirmary it is solely on account of the one advantage it possesses. With all its disadvantages, preliminary preparation of the skin of the part presents the advantage of the saving of time under the anaesthetic, and that advantage is considerably greater in adults than in children. In the adult the surfaces to be cleansed are comparatively large, and especially in males, require the use of the razor in many parts of the body besides the scalp, and a good deal of time may be necessary. In the child cleansing of the part is very speedily performed.

V.

Experience of herniotomy, abdominal section, and other operations in young children treated as out-patients is gradually reconciling me to the view that we keep similar cases in adults too long in bed, and in my wards in the Western Infirmary we are gradually feeling our way to an average recumbent period of something under a week; how much under we have not yet quite decided.

DISCUSSION

The PRESIDENT OF THE SECTION (Mr. H.J. Stiles) agreed with Mr. Nicoll on very many points laid down by him, but did not consider it justifiable to treat hernia patients after operations for hernia as out-patients.

Mr. ROBERT CAMPBELL (Belfast) said that he was in entire agreement with Mr. Nicoll as regards operation on children who could be easily carried home by the mother. He was in the habit of operating in the out-patient department department on hernia cases.

Dr. J.W. SIMPSON (Edinburg) said that Mr. Nicoll's statement that after certain operations, if an infant could be treated as an out-patient, it was preferable to treating the same class of case in the hospital, raised the question of the advisability of as far as possible having infants under the care of the mother. Certainly, at least in medical cases in which the feeding was of the first importance, experience proved that, provided the mother was intelligent, it was much better to treat such cases as out-patients. Frequently, when under hospital care, these cases did badly; if sent out and carefully tended by the mother—the same dieting being carried out—they at once put on weight. As the question of feeding must be considered in all cases, he was disposed to agree with Mr. Nicoll that, as far as possible, infants should be treated as out-patients.

Mr. A. FULLERTON (Belfast) said that most of what Mr. Nicoll and the previous speakers had said accorded with his own practice to a large extent, but he drew attention to the medico-legal aspects of the question. Supposing, for instance, he

had operated on a case of hernia in the out-patient theatre, and that child died from sepsis or other cause, a little awkwardness might arise with a jury, especially if a medical man called to see the case made the statement that the child ought to have been kept in hospital. With the authority, however, of such well-known surgeons as Mr. Nicoll, Mr. Stiles, and Mr. Campbell, he was sure more work would be done in the out-patient theatre, and he was also sure that the benefit of children's hospitals would be much extended thereby.

Mr. E. SCOTT CARMICHAEL (Edinburgh) said that he had had uniformly good results by following lines similar to what Mr. Nicoll had laid down with regard to operative treatment of infants.

Mr. R.C. DUN (Liverpool) said that on the whole he agreed with the views expressed by Mr. Nicoll.

Mr. ALEX. MACLENNAN (Glasgow) said with reference to radical operations for hernia there was no reason, as far as asepsis was concerned, why an operation done in an out-patient theatre should not be as safe as that done in the in-patient theatre. The risk of movement afterwards was much less than the risk of retching, coughing, or sneezing, all of which were as likely to be a sequence in the one as in the other case. Soiling of the wound at home could be prevented by an impervious dressing, and in any case the child soiled itself as much in a hospital bed as in a bed at home. The operation was so simple as to be practically without risk, and could be advantageously performed from birth onwards.

Mr. G.H. EDINGTON (Glasgow) detailed the after-treatment of operated cases of hernia in infants, and strongly advocated the application of a wet paste consisting of iodoform and carbolic lotion to the operation wound followed by a layer of gauze, which served to abstract the fluid, a dry antiseptic covering resulting. From experience amongst the poor he was certain the child would often have to share the family bed with the parents and other children, even in infectious diseases.