family, consisting of man and wife and eight children, all unvaccinated. These I vaccinated without delay, and none contracted the disease, although the division between the two houses was of a very slight nature, being merely a wooden partition.

Again, small-pox existed in a house, one of a row of brick ones. An unvaccinated girl, in the sixth house distant, contracted the disease in the confluent form. Her mother and two sisters consented to be vaccinated, but her father, who said he had been vaccinated in childhood, but whose arms bore only one indistinct and by no means characteristic mark, refused vaccination, soon contracted the disease in a severe form, and both he and his unvaccinated daughter died, the others escaping altogether.

The only unvaccinated person in the third house distant, a boy, aged 10, whose doting foster-parents had refrained from having him vaccinated, for fear, as they said, of injuring his health, but who had anxiously taken every other precaution, contracted small-pox in the confluent form, but recovered, with great disfigurement. All the other inmates of this and the intermediate houses, having been efficiently vaccinated, escaped the disease entirely.

AMPUTATION AT THE HIP-JOINT BY FURNEAUX JORDAN'S METHOD.*

By LEWIS W. MARSHALL, M.D.,
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In the *Lancet* of March 23rd, 1879, a case was published, with remarks, of amputation at the hip-joint by a modified method, by Mr. Jordan. Struck with the simplicity of the operation, and the probability of a much more favourable result than by the performance of the older flap amputation, I have adopted it; and the three cases now shown in the wards at the Children's Hospital, are, with exception of one since dead, those which have occurred in my practice since the date of Mr. Jordan's paper.

The method of operating is as follows:—If incision has been previously practised, the existing incision is prolonged to about the middle of the thigh; the femur enucleated; the soft parts cut through with a circular sweep of the knife, and the femoral artery tied. Mr. Jordan, in his case, controlled the bleeding by a tourniquet on the external iliac; but, as will be shown subsequently, in children's work at least, the fingers on the common femoral have hitherto proved sufficient.

Summarised, my cases stand thus. Four in number; three after failure from incision, and one where that operation was deemed inadmissible on account of the extent of disease in the shaft of the femur. All were, as to their general condition, in such a state, that a fatal termination might be predicted at an early date; and, one, the girl, had a very large and persistent deposit of albumen, lasting up to and beyond the time of her discharge from the hospital. However, I am glad to say, she has for some months been free from any symptom of this kind. Their ages were: two at seven years, one at five years, and one at two years and five months. In all, the fingers were used to compress the common femoral; but in No. 1 E-march's band was applied. This slipping, the fingers were substituted for it. Owing to the change in the means chosen for restraining hæmorrhage, more blood was lost in this case than in any of those afterwards. No more than two vessels were ligatured in any instance, and in some the femoral only. Two drachms would represent the maximum blood-loss. Catgut was the ligature used; the dressing employed being in No. 1 thymol; and in all the others a loose covering of carbolic oil and lint. Drainage was secured by horse-hair. The fatal case occurred three months after the date of operation from visceral lesions.

Mr. Jordan remarks upon his single case that as "compared with the ordinary operation of two flaps, the wound was less severe, the cut surfaces were less extensive, and, in a manner, further removed from the trunk; it was followed by less shock, less hæmorrhage, less opportunity for septic infection. The vessels cut were more easily dealt with. The thigh might be simply cut through with a circular sweep of a few sawing movements. The boneless thigh should be firmly held, and somewhat flattened, if cut across. The muscles may be cut on the same level as the skin, the bone being absent, they retract so strongly that the skin readily covers them; its vitality is less endangered; and a great cellular plane is not opened. The bulk of the soft parts of the thigh, especially near the pelvis, lies at the inner side of the femur. Why put a knife through these parts? It is better to enucleate the femur when it is covered, and cut across the limb where it is smaller and further removed from the trunk. In removing the thigh very low down, the area of the wound is, no doubt, increased; but even then it

would be a much less dangerous wound in character and locality." He goes on to say that the operation is more suitable for those cases in which the soft parts can be freely left. "The surgeon may, if he choose, make the circular sweep before the shaft of the bone is turned out, if precaution against hæmorrhage have been very complete." He also calls attention to the value of the operation as giving safe access and free drainage for any length of time. The principle of the operation is suggested by Mr. Jordan as a valuable one to adopt for amputations in other localities.

My chief object in bringing these cases before the meeting is to call attention to (judging from the number of cases published and the reports of the meetings of the Clinical and other Societies in London) the somewhat tardy manner in which this method has been adopted by the profession. Holding forth the advantages it has, as compared with the double flap operation, more particularly with respect to blood-loss and the shock sustained, rendering handling *per rectum* perfectly unnecessary, the gluteal vessels being untouched, I am at a loss to explain why, when Dr. Stokes of Dublin related his cases by the older method at the Clinical Society on April 23rd, that no question was raised by any member present as to the operation performed. In the subsequent discussion, great stress was laid on the anxiety with which amputation at the hip-joint was undertaken, on account of the bleeding from the posterior flap, and the respective values of abdominal tourniquets and Davy's lever were freely discussed, the latter appliance being much extolled. That it may be, and probably is, of great service in the flap operation, one can quite see; but surely it is undesirable to pursue such a course when everything else is in favour of a choice of methods of operating such as render this procedure absolutely unnecessary. The cases shown to you to-day prove, I think, clearly the advantage of Mr. Jordan's operation, because in not a single instance should I have cared to have removed the limb by other means; in fact, in publishing my first two cases, I remarked that No. 1 had, I believed, suffered to some extent by delay on account of my shrinking from an operation which necessitated so much hæmorrhage and shock. The method I am now advocating had not at that time been brought forward; I had therefore no choice but to operate by the double flap.

Although of secondary importance, operations at the hip-joint being usually undertaken principally for the saving of life, I may point out that the stump left by Jordan's method is in every way all we could wish for. Limp, flaccid, and flabby at first—in fact, unsightly—it soon contracts, and, long before the old sinuses and abscess-cavities have healed, has assumed a shape not to be despised, and, in my judgment, as capable of bearing support as any other.

By giving to us this plan of removing the limb (a modification as it is, I think, of Dieffenbach's), Mr. Jordan, we must admit, has conferred a boon on the patients and an addition to surgery. More lives will be saved by the removal of useless and harmful limbs, fewer deaths will result than by other operations, and the risk of prolonged suffering ending in lardaceous disease will be lessened, if, as I feel it must, the utility of this measure be eventually recognised.

REMARKS UPON THE STAGES OF INFECTIVENESS OF MEASLES.

By T. FREDERICK PEARSE, M.D., LIPHOOK, HANTS.

THE following cases are particularly instructive as well as interesting, from the exact as well as reliable data which were able to be obtained. Two brothers, C. and H., returned home for their holidays on Friday, April 21st. Exactly a week before they "broke up", a boy returned to school from the Isle of Wight, where he had been about a fortnight for a change after an attack of measles. The convalescent was a day boarder, but played about with the other boys, and is said to have been wearing the same clothes in which he went away ill. A few days before the "break up", another boy was separated from the rest of the school with a so-called "cold". Three days after the return home of the two brothers, viz., on Monday, April 24th, the eldest of the two was taken poorly, but with no very definite symptoms beyond those of a "cold" until Friday, the 28th. On the afternoon of that day, his face was noticed to be "blotchy", and he showed a few red spots about the neck. There being a younger son at home who had not been to school on account of his health, the parents promptly separated him from his two brothers to another part of the house. Up to this time, the second boy who had been to school appeared quite well. A rash, however, of an unmistakable character was recognised on the following day (29th). These two boys passed through a typical, though favourable, attack of measles. The crisis in each case occurred on the night of the sixth day of the disease; and, after the rash had been visible

* Read before the Midland Branch.