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## CASE OF FRACTURE OF THE THIGH TREATED BY IMMOVABLE APPARATUS OF GYPSUM.

[Read before the Suffolk District Medical Society, Oct. 31st, 1863, and communicated for the Boston Medical and Surgical Journal.]

BY JOHN GREEN, ONE OF THE ATTENDING PHYSICIANS AT THE CENTRAL OFFICE OF THE BOSTON DISPENSARY.

ELISE H., a healthy German child, about two years old, broke the left thigh, about its middle, by a fall out of bed, Sept. 8th, 1863. The limb was shortened about an inch and a half, but was easily restored to the length of its fellow by gentle traction. I immediately applied a starched bandage from the foot as high as the groin, supporting it on the sides by strips of stout pasteboard previously softened by soaking in water. A farther temporary support was given to the apparatus by splints of dry pasteboard, which were allowed to remain until the starch had become dry. For two or three days no shortening was to be detected, but on the fifth day I found that the starch had become softened from dampness, and that the limb was three quarters of an inch shorter than the other. I then slit up the bandage along the front of the thigh and covered it with another roller, applied pretty firmly, while extension was made by an assistant. The whole limb was then covered with plaster mixed with water to the consistence of cream, a second roller was applied over it, and the whole surface smoothed over with a little more plaster and varnished with a solution of shellac in alcohol. The child lay on the back, and any tendency to rotation was checked by blocking the limb on the sides with small sticks of fire-wood. At the end of the third week the apparatus was removed for inspection of the limb, and was renewed as before. At the end of five weeks, the bandage was finally taken off, and the treatment ended; there was no twisting or other distortion, and the shortening was scarcely to be detected, certainly not exceeding one eighth of an inch.

[Nov. 3d, eight weeks from the date of the fracture, the child walks as easily and as well as before the injury.]

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This case is interesting as illustrating the treatment of fractures of the thigh in young children, and under circumstances unfavorable to the perfect rest demanded by many of the forms of apparatus in common use. The child lay on a mattress upon the floor, and had to be moved several times a day in order to change the bedding under her. This was easily effected by means of a belt placed about the waist, at the same time supporting the broken limb in its plaster case with the other hand. The tendency to shortening was resisted by the conical form of the thigh and of the socket formed by the plaster, just as, after amputation of the thigh, the weight of the body is sustained in the conical socket of a modern artificial limb. To secure this condition, the upper part of the apparatus must be firmly applied to the thigh, and carefully watched to detect any loosening which may occur from the shrinking of the soft parts. Should shortening occur from this cause, the thigh part of the apparatus should be slit up in front, a wedge-shaped strip removed, and the whole re-adjusted by applying a starched roller over it, at the same time that extension is made by an assistant. Another powerful agency, as it seems to me, in preventing the shortening of the limb, is the circular compression of the muscles of the thigh. Of the potency of this action I am convinced from observing its great efficiency after amputation of the thigh in relieving the tension of the soft parts over the end of the bone, and thus preventing its protrusion and the formation of a conical or sugar-loaf stump.

The application of these two principles seems to have been long ago attempted, but with no great success. The most ingenious of these methods is that of Benjamin Gooch, whose apparatus, wrongly attributed to Benjamin Bell, is figured in John Bell's "*Principles of Surgery.*" Gooch compressed the muscles of the thigh by means of a large number of thin splints, of an inch or less in width, glued upon thin leather and confined by three or more circular straps and tourniquets. Counter-extension was made from an adjustable ring of metal encircling the upper part of the thigh, but not bearing against the perinæum; this ring was connected by iron rods with a pair of bands placed just above and just below the knee, and the extension effected by means of screws. In this machine, as in the ancient "*glossocomon*," the great and fatal defect was the painful constriction of the limb by rigid bands at a few isolated points, causing the whole member to swell, and thus compelling the speedy relaxation of the extending force for fear of inducing gangrene. In the method now proposed, this danger is avoided by including the whole leg and foot in the plaster apparatus; the plaster case forms an efficient splint, and both the extension and counter-extension are made from large surfaces accurately moulded to the parts, thus acting efficiently and without the confinement and irritation which attend the use of the long side-splint and perineal band. The im-

portant feature in this method, and that in which it differs from the ordinary treatment by the starched or plaster bandage, consists in tightening or renewing the thigh part of the apparatus as often as the shrinkage of the soft parts permits shortening to take place. This, as has already been stated, may be easily effected by cutting out a narrow strip from the front of the case, and tightening it by means of a roller, or better perhaps, in the manner of Mr. Gooch, by straps and twisted tourniquets. The skin, at the part of the thigh corresponding to the slit in the apparatus, may need to be protected by a strip of thin pasteboard, and the plaster may be strengthened, on the outside, to any requisite extent by thin splints of wood or metal. Dextrine may be used instead of plaster, with the advantage of greater neatness with less weight, but plaster has the very great recommendation that it hardens more promptly, is less affected by being wet, and, if varnished, can easily be kept clean, even under the most unfavorable circumstances.

For fractures below the upper third of the femur, I think this method may be made to render good service, at any rate in young children. I should be disposed to try it, also, in the adult, with the addition, perhaps, during a part of the time, of a weight hung to the foot, as practised by Hildanus, and now again somewhat in fashion in this neighborhood.

909 Washington St., Boston, October 31st, 1863.

### CANCER OF THE PYLORUS.

[Read before the Suffolk District Medical Society, Oct. 31st, 1863, and communicated for the Boston Medical and Surgical Journal.]

By JOHN HART, M.D., BOSTON.

P. E., age 52, mechanic. Came from Germany about fifteen years ago. Had pneumonia before he came to this country, but enjoyed good health until eight years ago, when he went to the West and there was taken with intermittent fever, which left him again after having returned to Boston. After this his health was apparently good, with the exception of slight dyspepsia and diarrhoea. His habits were regular; would drink beer, but never to any excess; wine never agreed with him, but could drink cider or brandy. He was in the habit of using tobacco to great excess; a pound would last him from ten to fourteen days; he chewed mostly, and swallowed the saliva. He worked in a factory, where he was mostly engaged in lifting and carrying heavy boxes. Was able to work regularly until within a year, when his disease seems to have commenced. He never complained of pain in the stomach, but always experienced a great deal of pressure and weight after meals, particularly after having taken meat, which he usually had to vomit again some hours after eating. Lived mostly on farinaceous diet, sweet or sour

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