

**Transactions.** In this case, the accident differs materially from that which I have just described, inasmuch as the only accident to the joint was a dislocation of the tendon of the biceps, which allowed the head of the bone to be drawn to the acromion. Taking these two cases together, we obtain the following physiological conclusions:—First, that the tendon of the biceps is sufficient alone to keep the head of the bone from rising from its situation, or, at any rate, contributes principally to that object. Secondly, that the supra and infra spinati have no influence in driving the head of the humerus under the acromion, inasmuch as it was drawn in that situation when these muscles were divided.

14. Supposing such an accident should again occur, we might inquire what probably would be symptoms from which we might derive our diagnosis. In the first place, there must be a slight shortening of the limb, and its axis would also be slightly altered. When the arm was drawn close to the side, the head of the bone would be more prominent than usual under the deltoid muscle. The tubercle would probably grate against the acromion, in abduction.

15. I do not see how this dislocation could be confounded with any of the more usual forms, though we might anticipate that, inasmuch as the indications are not very prominent, it might possibly escape the attention of the surgeon altogether.

16. If the surgeon had clearly satisfied himself that this accident existed, what treatment ought he to pursue? Pathology indicates relaxation of the deltoid, relaxation of the supra and infra spinati, and relaxation of the long head of the biceps. We can effect all these objects by throwing the arm of the affected side behind the head, so that the fingers touch the opposite shoulder. It might be kept in that position by a bandage fastened to the wrist of the affected side, and carried round the axilla of the opposite shoulder. In the application of the bandage, we must remember that the entire weight of the arm will be supported by it, and on this account it would be necessary to pad the axilla, and to be careful that the weight does not injure the wrist. The use of these very simple means for two or three weeks would probably cause the gap to be very small. Perhaps such a treatment might be adopted with rupture of the tendon of the biceps or the spinati; for to bandage the arm to the side, in these cases, would widen the gap, and cause mischief.

17. This line of treatment would not be applicable when the accident is complicated with fracture of the clavicle, as it would tend to increase the tendency of the end of the bone to overlap. Probably the rarity of the accident depends upon the expenditure of force by the fracture of the clavicle, which is more easily effected than the rupture of the tendons.

18. For the sake of information, I have examined the account given by Sir Astley Cooper, of such cases of dissection of dislocations of the shoulder-joint which have either come under his own observation or which he has collected from the labours of others. He describes two dislocations into the axilla, in both of which the subscapular is torn, and in one the tendons of the spinati and teres are more or less lacerated. The case before us differs from both those recorded by Sir Astley Cooper, in having the subscapular entire, and from one, in not having the teres injured, but in having the spinati completely instead of partially ruptured.

19. In one dissection of a dislocation, the tendons were all perfect, and in another the spinati and subscapularis were completely detached from their tubercles. Our present case differs in having the subscapular entire from that in which tendons were ruptured.

20. But one account is given of a dislocation backwards, and in that case the subscapular was torn.

21. One case is narrated of a dissection of a partial dislocation under the coracoid process, where all these muscles were entire.

22. In all those four cases recorded by Sir Astley Cooper, in which rupture of the tendons occurred, the subscapular partook of the injury, but in the case before us the subscapular remained uninjured. From this remarkable peculiarity I think that the opinion is strengthened, that force was applied in a manner differing from that required to produce the other and more ordinary forms of dislocation.

23. There is no similar preparation in the Royal College of Surgeons of England, and with the exception of Mr. Scolen's, in King's College, London, which differs materially from it, as far as I know, it has no precedent. The partial dislocation upwards of the shoulder-joint, of itself, is sufficiently rare to demand its publication, but inasmuch as this rarity is rendered still more uncommon by being accompanied by a false joint between the great tubercle and acromion, it becomes still more deserving of being recorded as one of the accidents to which this part of the human frame is liable.

London, Nov. 14, 1844.

## RUPTURE OF THE LIVER.

By E. W. C. KINGDOM, Esq., Edinburgh.

DURING last autumn, the month of September, I think, a boy, driving a coal-wagon on the Edinburgh and Dalkeith Railway, lost his balance, and fell before it, the wheels passing over his body. Some colliers observing the accident conveyed him to his mother's house, which was not far distant, and where, along with a medical practitioner, I shortly afterwards saw him. He was lying in a state of insensibility, with paralysis of the lower extremities, consequent on fracture of the last dorsal and first lumbar vertebra, and laceration of the spinal cord. Urine and fæces had been passed involuntarily. The abdomen was tumid, but "not the least mark" of external injury. The boy lingered for five hours, when he expired. A "sectio" was allowed, when the above fracture was discovered, and on the abdomen being opened, blood welled out in considerable quantity; and, indeed it required a pretty active use of the sponge before the proper state of matters could be ascertained. We then discovered that the liver was ruptured transversely throughout its whole extent, and the hæmorrhage had evidently proceeded from the portal vessels. It was *completely* divided, and as clearly as if it had been done with a knife.

**Remarks.**—The first question that naturally arises here is, How could this complete division occur? The only injury to be perceived from external examination was the fracture of the vertebræ, the boy having fallen on his face and the wheels of the wagon passed over the spinal column. This, one would be led to suppose, could not affect the liver to such a degree, without we are to take it for granted that the abdomen was compressed in the hepatic region by the raised iron rail, and then, surely, we must have had some external mark, as an indentation, or something of that sort; yet there was not the least mark of violence, although such destruction of the liver was sustained. I have heard of another case only, which occurred in a child in this city, which was occasioned by leaping from a wall a few feet in height; the child died immediately, and a post-mortem examination revealed a similar rupture of the liver to the one just recorded.

## PERITONITIS, THE RESULT OF CONTUSION.

By THOMAS BENNETT, Esq., Hailsham, Sussex.

A BOY, aged ten years, was returning with his father from the sea-shore with a load of beach weighing between two and three tons. He had been riding some time on the wagon, and when he attempted to get down, he fell from the shafts immediately before the wheel, which was in the act of passing over his body, when his father, who was walking by the side of the horses, perceived by the strain made by them, that they were pulling against some obstacle: he turned round, and saw his child actually under the fore-wheel. The poor fellow, in his fright, for the moment hesitated whether he should back the wheel or move on: he decided, however, on the latter, and so the wheel passed over the body of the boy, crossing the middle of his abdomen. On snatching him up, he found, as he says, "the boy alive, but not able to stand," and that a large quantity of fæces had been squeezed from the bowels "per rectum."

As this accident occurred away from any dwelling, the boy was put on the wagon and driven home, which he did not reach for two hours. When I saw him, I found him in a state of partial collapse, and upon hearing what had occurred, expected, of course, to find some grave injury—such as fractured pelvis, or serious mischief done to the vertebral column; but no trace of injury could I find anywhere—not even any mark on the abdomen, although it was excessively tender to the touch over its whole surface. The boy was put to bed, and proper means were employed to promote re-action and subdue its violence. He passed a restless night, and next morning I found that severe peritoneal inflammation had supervened; but by the application of the usual treatment, of leeches, &c., this was readily overcome. The bowels were unacted upon for three days after the accident. They yielded, however, to a repeated dose of castor oil; and from that time to this the little patient has rapidly convalesced—so that now, about ten days since its occurrence, he is as well as ever.

**Precipitated Sulphur.**—Mr. Murdoch has ascertained that this substance usually contains two-thirds its weight of sulphate of lime. This impurity can be easily detected by heating the sulphur on a slip of platinum, when it should be completely volatilized.