machine above mentioned. The bandage ought to be re­tained for a conſiderable time.

Luxations of the ribs are exceedingly rare. The ſymptoms are nearly the ſame with thoſe ariſing from fracture, only that the pain is more ſevere at the articulation, and that no other ſpot but that will yield to pressure. All that can be done is to bend the body forward over a caſk or ſome ſuch body, in order to aſſiſt the viſcera in preſſing out the rib. Bandages are of little uſe. The patient ſhould be kept quiet, and fed on a low diet : inflammation ſhould be prevented, and opiates given if he has a troubleſome cough.

Sect. IV. *Luxation of the Bones of the Superior Ex­tremities.*

The head of the os humeri is moſt frequently diſlocated forwards and downwards, sometimes downwards and back­wards, but never upwards without a fracture of that part of the ſcapula which is placed above the joint. The luxa­tion is diſcovered by the patient’s inability to raiſe his arm, by violent pain attending the attempt, by the luxated arm being of a different length from the other, by the head of the humerus being felt out of its natural ſituation, while a vacuity is perceived under the acromion, and by the flatneſs of the injured joint, while the sound one has its natural fulneſs. When the luxation is of long ſtanding, the whole arm is apt to become oedematous.

The patient ſhould be ſeated on a chair, and his body ſe­cured by a broad belt paſſed round it, and held by aſſiſtants. The elbow ſhould be bent, in order to relax the muscles on the fore part of the luxated joint. A firm leather belt four or five inches broad, with ſtrong ſtraps, and lined with flan­nel, is to be tied round the arm immediately above the el­bow : aſſiſtants are to extend the arm gradually, by pulling theſe ſtraps, while another aſſiſtant draws back the ſcapula. The ſurgeon ſtands on the outside of the arm, directs the aſſiſtants, and varies the direction of the extenſion, accord­ing to the ſituation of the head of the bone. As ſoon as the head of the bone has cleared the brim of the socket, the muſcles draw it into its place, a crack is heard, the patient is relieved, and the anterior part of the ſhoulder acquires its uſual fulneſs.

Various other methods of extending the arm have been propoſed in difficult caſes; as, ſuſpending the patient by the luxated arm over the ſtep of a ladder or the top of a door, raising him up by the arm with ropes running over pulleys fixed in the ceiling of a room, &c. The jerk produced by the body being ſuddenly raiſed and let down again on a fea­ther bed, has ſometimes ſucceeded when other means have failed. A gentler method is to lay the patient on the floor, while two or three stout men ſtanding on a table lay hold of him by the arm and pull him up. But all theſe methods are in danger of lacerating the ſoft parts by the ſuddenneſs with which the force is applied, and even ſometimes of breaking the end of the humerus if it be preſſed againſt the neck of the ſcapula. Mr Freke’s improvement on the ambé of Hippocrates has been conſidered as the beſt machine for extending the arm. But machinery is very ſeldom necessary; even cases of long ſtanding may by proper management be reduced by means of assistants, provided reduction be at all practicable. Inflammation after the operation ſhould be ob­viated by the uſual remedies. If the bone be apt to ſtep out again, which ſometimes happens after repeated disloca­tions, the arm ſhould be ſupported in a sling till the parts have recovered their tone. Bliſters, friction, stimulating me­dicines applied to the ſhoulder, and cold water poured on it, have ſometimes been uſeful in reſtoring the ſtrength of the joint.

Luxations at the elbow moſt commonly happen upwards and backwards ; and then the fore-arm is shortened, the end of the ulna projects behind, and is higher than usual, while the extremity of the humerus can be felt in the bend of the elbow. The ſurgeon ſhould take hold of the wriſt with one hand, and the upper part of the fore­arm (which is to be moderately bent) with the other, and gradually pull the top of the fore-arm downwards, while at the ſame time he increaſes the curvature of the elbow to diſengage the ends of the bones from each other. He ſhould then pull the bones forward into their ſituation. When the luxation happens upwards and forwards, it ſhould be redu­ced while the arm is extended. After the reduction, the muſcles of the fore-arm ſhould be kept relaxed by bending the elbow a little till the parts have recovered their tone. When the bones of the fore-arm are diſlocated from each other, which happens moſt frequently at the wriſt, the ro­tatory motion of the hand is deſtroyed. After the reduc­tion, the bones ſhould be bound together by a tight flannel roller, or a couple of ſplints ſhould be applied along the fore-arm, and the arm ſupported in a sling.

The bones of the wriſt are not ſo often luxated as might be expected from the ſmallneſs of their ſize. When they are, great ſwelling and pain enſues, and the motion of the joint is entirely deſtroyed. Great attention is necessary, leſt luxation ſhould be mistaken for a ſprain. The arm and hand ſhould be ſupported by aſſiſtants, but not ſtretched ; and then the bones ſhould be puſhed into their place, and afterwards retained by proper bandages and ſplints. The bones of the metacarpus, when they happen to be diſ­located, which is very ſeldom, are to be reduced in the same manner. Diſlocations of the thumb or fingers are eaſily diſcovered. To reduce them, an aſſiſtant ſhould hold the phalanx from which the dislocation happened, while the ſur­geon endeavours to elevate the bone from the one contigu­ous to it, and to paſs it into its place.

Sect. V. *Luxations of the Bones of the inferior Extre­mities.*

From the great ſtrength of the hip joint, it was for­merly believed that the head of the thigh-bone was never luxated by external violence ; but it is now known that it happens by no means unfrequently. The ball in ſtarting from its ſocket gencrally passes forwards and downwards in­to the foramen thyroideum. When this happens, the limb is conſiderably lengthened, the head of the bone is lodged near the under and fore part of the pelvis, the large tro­chanter is obſerved on the fore part of the thigh, a vacancy is perceived where the head of the bone and the trochanter ſhould be, and the toes are turned outwards. When the bone is diſlocated upwards and backwards, the limb is ſhortened, the great trochanter higher than uſual, the knee and foot turned inwards. When it is diſlocated upwards and forwards, the leg is ſhortened, the ball of the bone is felt on the os pubis in the groin, and the great trochanter on the upper and lower part of the thigh ; a vacancy is diſcovered in the correſponding part of the hip; the knee and toes are turned outwards. When the ball slips downwards and backwards, the leg is lengthened, the toes turned inwards, and the great trochanter is lower than that of the other limb. If the ball slip directly downwards, the leg is length­ened, but the knee and toes keep nearly their natural ſitua­tion. It is ſometimes difficult to diſtinguiſh between luxa­tion and fracture of the neck of the bone. In fractures the bone is moſt frequently puſhed upwards, and the leg ſhort­ened, the knee and point of the toes are turned inwards, and may be moved much more readily outwards and inwards than when the bone is diſlocated.