ART. XVII.—1. Complete Excision of the Clavicle for Tumour (Osteo-Sarcoma). 2. Partial Excision of same for Necrosis.* By W. I. Wheeler, F.R.C.S.I.; Ex-President and Member of Council, R.C.S.I.; M.D. and Master of Surgery, Dublin University; Member of the King and Queen's College of Physicians; Fellow of the Academy of Medicine, and ex-President of the Surgical Section; Surgeon and Lecturer on Clinical and Operative Surgery to the City of Dublin Hospital.

Entire or even partial excision of the clavicle—the girdle bone of the shoulder—is an unusual operation, and one that surgeons are not often called on to perform. Having regard to its rarity, I have decided to bring before this Academy the histories and result of two cases—one of complete, the other of partial, excision of the clavicle.

Unfortunately in representing the first case I am only enabled to produce the cast, the specimen of it having been destroyed:

Case I.—M. B., a native of Wexford, aged forty-three, was admitted into the City of Dublin Hospital under my care in 1874, suffering from a tumour of considerable size on the left collar bone, extending over its entire length, with the exception of about three-quarters of an inch of the sternal end and an inch and about a half of the acromial extremity. It was dense and firmly attached to the bone, occupying the anterior inferior and part of the posterior inferior triangles of the neck. It hung

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On Excision of the Clavicle.

down over the inferior or pectoral edge of the bone, and had the appearance of being part of the clavicle itself. Within the patient's recollection no hurt had in that region been occasioned, except a slight blow which he received by having a door forcibly pushed against him. He was a spare, thin man, his height about 5 feet 7 inches, weighing about 10\(\frac{1}{2}\) stones. His countenance wore an anxious and careworn expression. He complained of some pain down his arm and in his hand. The latter was sometimes edematous, resulting, probably, from the pressure of the tumour on the subclavian vein.

After due deliberation and consultation with my colleague, Mr. Tufnell, I determined to remove the clavicle, and consequently, the patient having been fully anaesthetised, I made a concave incision downwards along the clavicle from the sternal articulation on the opposite side to the extremity of the acromial process, and I reflected both up and down the integument and fascia. The clavicular origin of the sterno-cleido-mastoid was also divided, along with the other necessary muscular structures. I next opened the acromio-clavicular articulation, and lifting up the bone by means of a lion forceps, I detached the costo-coraco-clavicular ligament and the subclavian muscle. Consequent upon the upward extent of the tumour I found it necessary to make a vertical incision extending into the posterior superior triangle of the neck, and by careful dissection and manipulation separating each attachment with the greatest care, so as to avoid the large vessels directly beneath. Both the subclavian vein and artery were easily recognisable, as also the cords of the brachial plexus. Fourteen ligatures were applied—two on the external jugular vein. The supra-scapular artery (which was much enlarged) was also tied. A few small vessels were twisted. All haemorrhage having been controlled, the wound was brought together by interrupted sutures. A suitable pad producing necessary pressure was placed upon it. The patient's arm was bandaged to his side, and he was replaced in bed. No appreciable amount of suppuration ensued; free drainage was maintained; the wound, however, closed slowly. The man did not leave the hospital for seven weeks after the operation, by which time the incision had completely healed.

I saw this patient three months subsequently at Kingstown. He was pale and anaemic. He suffered from cough, and presented the appearance of one who ere long would develop phthisis. He was then able to use his arm and shoulder with tolerable facility, and but for the condition of his general health he could have earned a livelihood.

To my agreeable surprise I was accosted last May in Sackville-street by him. He had just returned from America, and was looking well, having gained both flesh and strength. I then had an opportunity of seeing the result of my operation. To an ordinary observer the man had every power as though the clavicle had not been removed, but when exercising a forward motion of his arm the scapula, instead of moving