

A further communication on a new method of compressing the subclavian artery : with the report of two cases / by W.W. Keen.

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A FURTHER COMMUNICATION ON A NEW METHOD OF
COMPRESSING THE SUBCLAVIAN ARTERY:

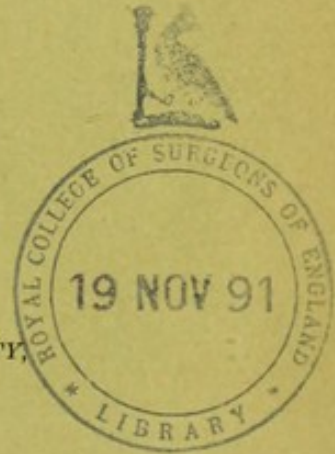
WITH THE REPORT OF TWO CASES.

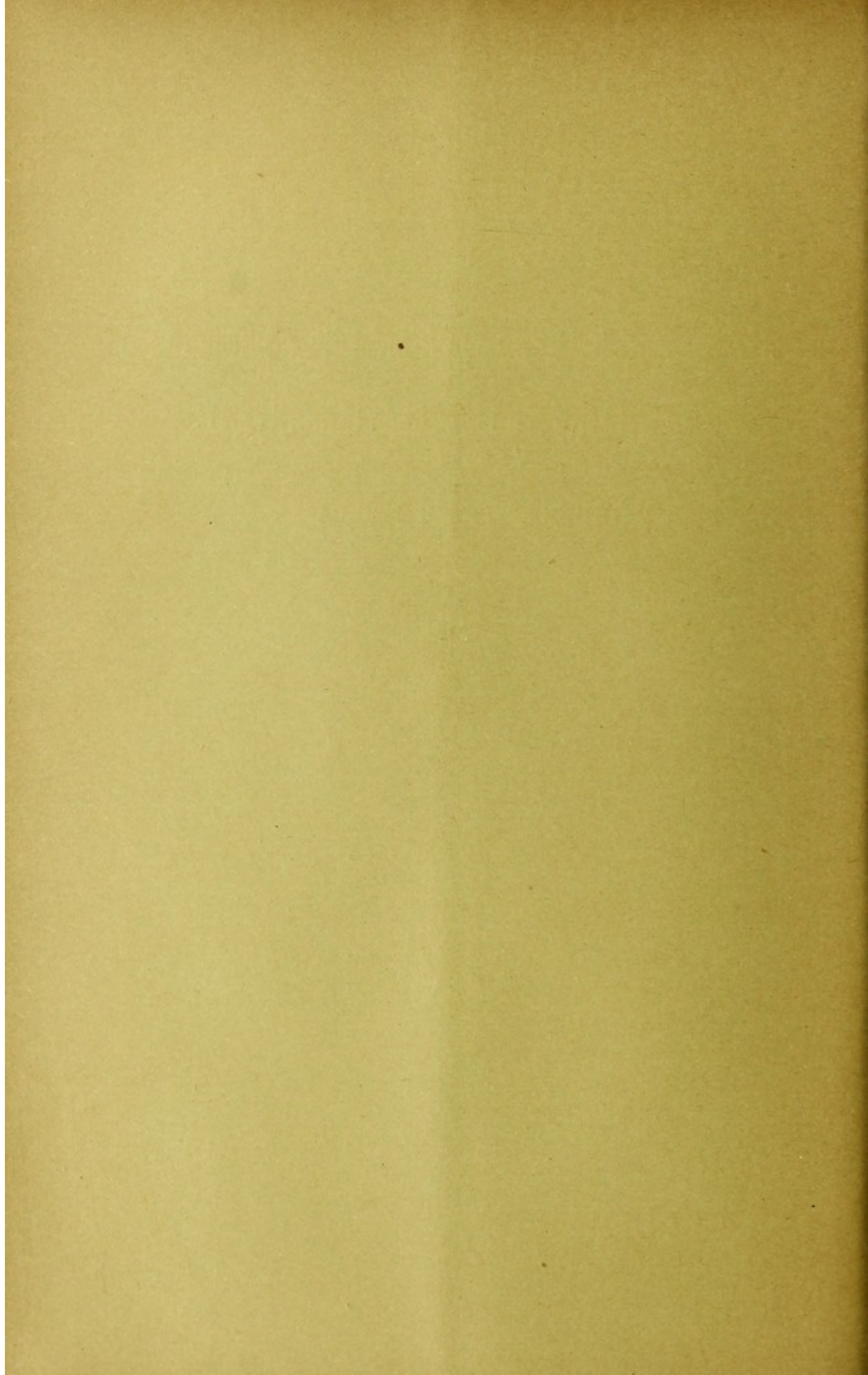
BY

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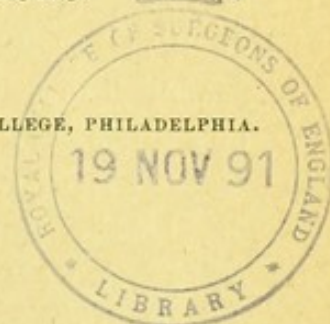


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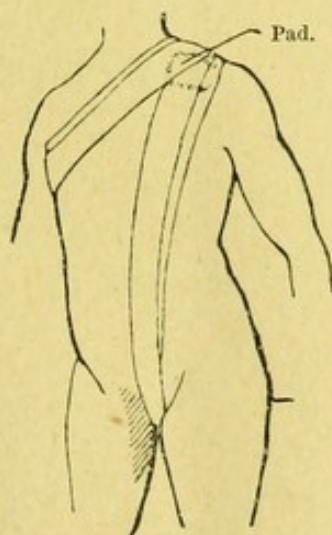
PROFESSOR OF THE PRINCIPLES OF SURGERY, JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

[Read May 27, 1891.]



I DESIRE to call the attention of the Society to the method which I proposed some time since for controlling the circulation in the upper extremity by elastic compression of the subclavian artery. (*Transactions Philadelphia County Medical Society*, February, 1890.) This, it will be remembered, was effected by a pad over the subclavian, held in place by the ordinary rubber bandage of the Esmarch apparatus; the elastic bandage being carried from the chest over the back, and then alternately between the thighs and in the opposite armpit.

FIG. 1.



Not long after I made the suggestion I made a trial of it for my friend Dr. Hearn, in the clinic at the Jefferson Medical College Hospital. In this case the application was a failure. The failure, I think,

arose from two reasons. First, the man had a very prominent clavicle and a deeply-seated first rib; and, secondly and chiefly, the pad used was the ordinary roller bandage. The conical graduated pad, as suggested by Dr. Parkes below, is far better.

I received a letter from the late Professor Charles T. Parkes, of Chicago, dated October 24, 1890, recording his use of it in another case in which the absolute control of the subclavian was almost a *sine qua non* for the perfect operative procedure, and in which the method, submitted to such a crucial test, succeeded so well that I venture to quote from his letter. I need scarcely point out that all our former methods for controlling the artery would not have given such command of the circulation as to make the deliberate dissection and ligation practised by Dr. Parkes a possibility:

"Allow me to congratulate you on the perfect success of the plan recommended by you for the control of the circulation in the upper extremity. The adoption of it yesterday enabled me to carry to a successful issue an operation for the relief of an immense traumatic aneurism of the axillary space, following a laceration of the axillary artery by a bullet from a heavy 45-calibre revolver. After the application of the rubber band in the manner you recommend with a compress over the subclavian artery, I laid the aneurism wide open, cleaned out all the clots, and finally found a large tear in the artery, and applied a ligature above and below it without the patient losing any blood. Twelve hours after the operation circulation was so far restored in the limb as to make a successful termination almost certain. I attribute the ease and readiness with which the difficult procedure was accomplished, to the perfect control of the circulation permitted by the adoption of your plan. It is certainly of great value. If an amputation at the shoulder-joint had been required, it could have been done without the loss of a drachm of blood.

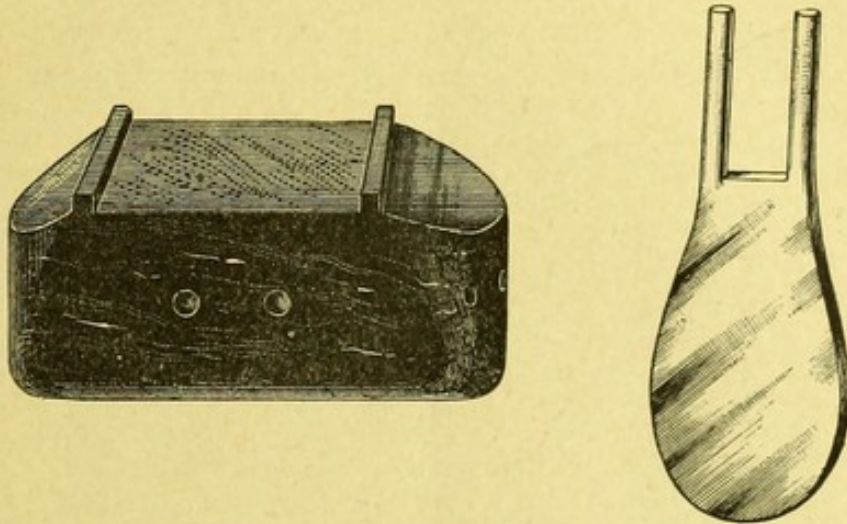
"No more trying test could be given to the method than the case in which I used it. A traumatic aneurism in the axillary space from a large wound in the artery is certainly one of the most difficult things we have to deal with. The application of the bandage in this case enabled me to work deliberately and with perfect ease. No motion on the patient's part can displace it.

"I think the character of the pad used under the bandage and over the artery has much to do with the success of the method. This pad should be somewhat in the nature of a graduated compress, small enough at its apex to fit into the interval between the clavicle and the first rib, and yet thick enough and firm enough to reach well

above the clavicle and the side of the neck, so as to take all the pressure off the rubber."

To answer this purpose I have had made a wooden pad as shown in the figure. The bevelling of the top is for the purpose of enabling

FIG. 2.



the rubber bandage to hold it in place and prevent its slipping either inward or outward. The two holes at the sides and end are for a removable handle, resembling a two-pronged fork, with which to hold it while applying it. Possibly the pressure of this wooden pad may be too severe upon the brachial plexus. If so, it could be made of solid rubber.

I have tried a similar but larger pad for the iliac arteries, but so far its experimental use has not been satisfactory.

