

wounds to heal without suppuration and under a *single* dressing. Under an essentially similar method, Esmarch and Neuber of Kiel, found it necessary to change the dressings more than once in but 11 out of 212 cases of extensive wounds. Made, closed and protected in this way, one may leave, as I frequently have left, wounds to await a convenient hour for further attention at any time within 10 days. Pain, fever, or the appearance of discharges are to be reported by the friends of the patient at once, and are the indications for the renewal of the dressings.

It will be convenient to suppose that a tumor of moderate size, situated on the fore-arm, is to be removed at a country farm-house. The arm of the etherized patient is brought through an opening in a rubber sheet, and the upper part of this opening is drawn closely and secured by a safety-pin, or is laced or contracted by a purse-string of elastic tubing. The folds of the sheet are then so disposed as to convey fluids into anything convenient, placed on the floor to receive them. Next comes the thorough cleansing and disinfecting of the part to be operated on, and of the hands of the operator and his assistant. Soap, hot water, and a nail brush first, and then a solution of the bichloride of mercury, 1:1000 should be freely used.

At the New York Hospital, in the service of Dr. Weir (to whom personally and to whose writings I am much indebted), the field of operation is also bathed with turpentine and alcohol, 1 to 7. The standard antiseptic solution may be prepared easily and with sufficient exactness when and where wanted by dissolving an 8 grain sublimate powder in each pint of water. I am in the habit of carrying these powders in a hard rubber pocket match safe. The recent discovery by Sir Joseph Lister that sublimate is soluble in $1\frac{1}{2}$ times its weight of glycerine, may furnish a still more convenient mode of preparing our solutions. Such a glycerole would doubtless diffuse in water more rapidly and uniformly than a powder could dissolve. The 1:1000 solution is to be mixed with an equal measure of hot water, for use in cleansing sponges and douching the wound. A tank, a fountain-syringe, or Esmarch's inverted and bottomless bottle, arranged as I show you, may be used, but most convenient and portable of all is the syphon douche now presented. This consists of a sinker weighing 3 oz.,

attached to one end of a tube of thick rubber 4 or 5 feet long, on which has been slipped a clip to close the tube when desired. These replace the short afferent tube and light sinker of any good syringe made after the Davidson pattern. Any pitcher will do for a reservoir, and the thick tube coming over its edge will form a curve instead of an angle, which would occlude it partly or completely. A fine nose tip of hard rubber is convenient during operation, but a tapered tube must replace it to inject the drainage tube and the deeper parts of the wound. Constant irrigation, though not required, is harmless. Since the mercuric salt acts injuriously on instruments, rusting and dulling them, and losing its strength in doing so, we have yet to use for their disinfecting a saturated 1:20 aqueous solution of carbolic acid. In this strength carbolic acid benumbs the fingers dipped frequently into it; hence it is well, when one is his own assistant, to place a towel wet with bichloride solution, when the instruments in use can be for the moment laid down, instead of being returned to and fished out from the carbolic lotion as wanted. The cutting instruments can be conveniently at hand on a plate or platter, while a bowl makes a bath for the forceps. Of these last, since the securing of every bleeding point is so important when the effort is to gain entire primary union, I make mention of the exceptional value of Sir Spencer Wells and Pean's pressure forceps, and of the torsion forceps of Fricke. Good models of these are shown, since bad ones are common. The plan of going down for a bleeding vessel, and lifting into view successively deeper and deeper portions of tissue with a pair of dissecting forceps held in each hand, is worth referring to in this connection. Sponges should be kept and carried in a sublimate solution. Dr. Weir showed me a rubber ice-cap, with large hard-rubber screw top, which made a very convenient receptacle for them. Not less than three basins of warm 1:2000 solution should be provided for the cleansing of the sponges. Passing through these in rotation, they reach the operator clean and dry. This point I should hardly have mentioned if I had not seen sponges so often thrown into and taken from the same basin during an entire operation. Many surgeons, who would not think of using dirty water for their own faces, apply it without stint to their patient's wounds.