

AN

INAUGURAL DISSERTATION

ON

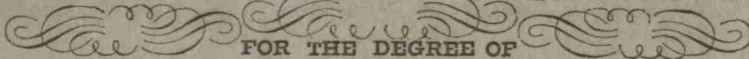
Wounds

SUBMITTED TO THE

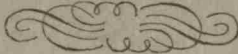
PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY

OF THE

UNIVERSITY OF NASHVILLE,



FOR THE DEGREE OF



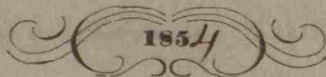
DOCTOR OF MEDICINE.

BY

B. Howard Rutland

OF

Tennessee



1854

W. T. BERRY & CO,
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Wounds

While improvements have been making in other departments of medicine, surgery has not been without a progressive tendency, and, in the treatment of no class of surgical affections, are these improvements, perhaps, more obvious than in wounds. Anciently the most absurd ideas were entertained with regard to the proper method of treating them, as is shown by the employment of amulets incantations &c; for this purpose. These superstitions, however, after a lapse of time were dissipated, and there came the application of Cerates, unguents, Cambrsons poultices,

and various supposed vulnerary Compo-
sions, all of which were thought to pos-
sess the power of hastening the healing
process; and so firmly was this error
engrafted upon the medical mind,
that it was not, until the beginning
of the seventeenth century, that its
inconsistency was attempted to be poin-
ted out; but few then forsake it, and
these various applications were con-
tinued until about the middle of
the eighteenth century, when a refor-
mation was wrought, which has
been gradually improved upon, until
at the present time, a wound is view-
ed as being scientifically dressed, only
when the prominent characteristic
thereof is simplicity. A wound is

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a recent solution of Continuity
regardless of extent; and a wound
is said to be of the incised, Contused,
gunshot &c variety; according to the
phenomena characterising it, or
the instrument of infliction: Thus,
an incised wound is one void of
Contusion and laceration, with a
surface greater than its depth, and
inflicted by a sharp edged cutting
instrument. We shall only speak of
the incised variety. An incised
wound has three phenomena char-
acterising it viz pain, hemorrhage,
and separation of its edges; the
first is owing to division of the
nerves the second to injuries done

The blood ~~is~~ vessels; and the third
to the natural contractility of the
parts. The hemorrhage may be
arterial, venous, or both when it
is from arteries, it may be known
by its bright scarlet colour, and
from its flowing per saltum from
the cardiac extremity of the vessel,
while, if it be venous, its colour
will be dark, and, it will flow in
a continuous stream from the
distal end of the injured vessel.

A wound of this class may
heal according to the circumstan-
ces attendant, and the man-
ner of treatment; by adhesion,
growth, the modeling process, or
by granulations though healing

by growth or the modelling process, is of rare occurrence; because, the wound is most generally treated with the view of causing it to heal by adhesion, and when thus treated the edges are made to coaptate, which combined with our propensity to morbid vascular activity, accounts for the rarity of healing by either of those modes; so, we shall only speak of the healing process, as taking place by the first and second intentions. The treatment is both local and constitutional; and in the employment of the local means, we have three indications to fill; viz, first to arrest hemorrhage, secondly to remove

foreign matter, and Thirdly to bring and retain the edges in accurate contact. In a wound in which there are no large vessels injured, nature will most generally check all hemorrhage, but if the employment of artificial hemostatics becomes necessary, we may resort to the application of cold aided by uniform pressure; but on the contrary, should the continuity of a large vessel be disturbed, we must call to our aid the graduated compress, or what will be more efficient ligation. After the arrest of all hemorrhage, we should proceed to the removal of foreign matter, which, in wounds which no

large vessels have been injured, will usually be nothing more than coagula of blood; and these may readily be removed with a fine sponge and water; but if a large vessel should have been wounded, and the compress or ligature employed to arrest the hemorrhage, the esoteric materials cannot be removed, consequently, accurate coaptation would be contraindicated; and we should be content with healing by granulation. But suppose the wound to be one in which the foreign matter has been merely coagula of blood, these being removed, we may proceed to the fulfillment of the third indication;

which as before mentioned, is to bring
and retain the edges in contact,
This coaptation however should
not be effected immediately, but
we should wait, until the edges
of the wound present a glazed ap-
pearance which appearance is
owing to the deposition of coagu-
lable lymph; an increased vascular
action, having been set up for its
effusion. Now we have a wound,
the hemorrhage from which has
been stanch'd, void of foreign mat-
ter and presenting a glazed ap-
pearance, which is precisely the
condition in which coaptative re-
tentive means are applicable.
These means are various, and

we should always select those
coetervis paribus, the application
of which gives the least pain;
not only because of the anguish
produced at the time of application;
but also on account of its increas-
ing the already great tendency
to inflammation; hence, where
sutures are indispensably necessary,
these should be no more used, than
the nature of the case absolutely
requires. Position and plaster are
the chief agents for bringing and
retaining the edges of wounds in
contact; but where these means
are not sufficient, sutures must
be employed; and as these are of
different kinds: the selection must
be made accordingly, as the one

may appear more applicable than the other; thus, in extensive wounds of the abdomen, the quilled suture will be most efficient, as by it the deep parts of the wound will be brought in contact, and healing will take place from the bottom; thereby, preventing protrusions. While in wounds of considerable extent in other parts, the interrupted suture will best answer the purpose; these should be introduced through the skin and subcutaneous cellular tissue, the knot being applied not directly over the wound, but to one side so as to avoid the irritation it would necessarily

produce; and these sutures may be used in connection with adhesive plaster, which should be applied in strips overlapping the wound, so as to support the subjacent parts. Besides these means, there are others which have the desired effect in slight wounds, such as colloidion, a solution of gutta-serena in chloroform, the spring forceps of M. Vidal, and the continued suture introduced merely through the cuticle. Now by some of the agents mentioned, the surfaces of the wound must be brought and kept in exact contact; when this is done, all motion of the part

must be strictly forbidden, the constitutional symptoms watched, and combated by appropriate means; remembering that inflammation of an excited character is the great enemy to adhesion by the first intention, as well as by granulation. Coaptation of the edges of the wound now being accurate, no other dressings are necessary, save occasionally such as have a tendency to keep ~~down~~ inflammatory action. There will be a vascularization of the lymph previously effused; vessels will shoot out from each surface of the wound, and inosculate with each other; and these by inhering

a like office to that of those from which they spring, build up the breach with tissue resembling that of the surrounding parts. But should the surfaces, either, from inflammation, or any other cause fail to adhere, the treatment for granulation must be adopted. We must no longer aim at complete coaptation, but allow free exit of pus, as its retention would endanger pysemia: all sutures should be removed, nothing remaining but a strip, or so of adhesive plaster, to prevent too great separation of the edges; if active inflammation be present, it should be subdued, for as long as it continues the organizable material, will be

wholly converted into pus; and hence,
^{no} filling up of the hiatus will occur.

Particular attention should be paid to the state of the system, for if the wound be large and suppuration profuse, the vital powers may become so far overtaxed, as to render the administration of Tonics necessary, and stimulating applications to the wound indispensable; but should the patient be very plethoric, an opposite course should be pursued and water dressing would now have a happy effect. The vascular activity of the part, should be maintained at a medium between that necessary for the mere effusion of lymph, and that of active inflammation.

so that a portion of the lymph so effused will be converted into pus, while the other will be metamorphosed into red conical eminences, which are granulations; These being connected to the surrounding textures. This process of effusion of lymph and transmutation of the same continues, while these granulations first formed are converted into areolar tissue, and it in its turn into tissue resembling that by which it is surrounded, until the chasm is filled, and then comes the process of cicatrization which completes the cure. Cicatrization is the process by which these granulations, when on a level with the

surrounding parts are covered over,
this covering, however, differs from
skin, both in organization and
appearance, and is seldom, if ever
so perfect. This integumental for-
mation commences at those gran-
ulations in contact with the skin,
its vascular activity being increased;
probably for it to take on a secretory
function, and this secretion in con-
nection with the granulations
forms the cicatrix. Now while
this new material is being formed,
and decreasing the quantity of
unprotected granulations, absorption
of the granulations themselves is
taking place, so there is a dimin-
ution of this space in two ways;

and this absorption may continue after the complete formation of the cicatrix, so as to remove it entirely as well as the transmuted granulations; so that there will be no new matter remaining between the once separated eyes. This entire removal of all new matter does not, however, as a general rule occur; but a portion remains to be incorporated with the contiguous parts, and in the course of time this amalgamation becomes so perfect, that any difference in appearance is scarcely observable, save in the cicatrix, which, as it is a copy of a very complicated structure, seldom attains the same perfection of organization as the original.