



# THE EDWIN SMITH PAPYRUS

Updated Translation of the Trauma Treatise  
and Modern Medical Commentaries

Ψ LOCKWOOD PRESS

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Gonzalo M. Sanchez & Edmund S. Meltzer


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Edwin Smith. By Francesco Anelli, 1847.  
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AND MODERN MEDICAL COMMENTARIES

Gonzalo M. Sanchez  
*and*  
Edmund S. Meltzer

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## FOREWORD

Since the dawn of history, medical care has been a blend of magic and science. It is the curse of human nature that drives us to act according to our beliefs and disregard facts that fail to fit them. Much has been made of the role of magic in ancient Egyptian medicine, and its role was, indeed, very important. Were it not for the Edwin Smith papyrus, we might well believe that magic was the essence, if not the whole, of the ancient profession, and relied on exploiting the patient's belief in hope of generating a powerful placebo affect. That probably happened, but this amazing document shows that those physicians, called *swnw*, also practiced valid evidence-based medicine four millennia ago!

I look to a book's Foreword to tell me why I should read it. In this instance, it is widely recognized that James Henry Breasted produced a masterpiece in his translation of the Edwin Smith papyrus. But that was in 1930. The practice of medicine and our understanding of many conditions have taken massive leaps forward. Simultaneously, there has been steady progress by philologists in clarifying the ancient language. The production of the monumental *Grundriss der Medizin der alten Ägypter* (9 vols.; Hermann Grapow, Wolfart Westendorf, and Hildegard von Deines; Berlin: Akademie, 1954–1973) has provided an invaluable resource in subsequent studies.

We are fortunate to have the expertise of an outstanding neurosurgeon, Gonzalo Sanchez, combined with that of a dedicated and well-recognized scholar of the ancient text, Dr. Edmund Meltzer, to update our knowledge of this document. Their comprehensive new translation advances our understanding of ancient medical practice and further clarifies it as a thoroughly rational approach to assessing and managing the conditions presented.

The papyrus is primarily an ancient text book regarding trauma. In current parlance, most of these cases are neurosurgical problems, while the bulk of the remainder consists of orthopedic problems or simple trauma. The analysis of many of these complex skull injuries is relatively simple and straightforward for a skilled practicing neurosurgeon such as Gonzalo Sanchez. However, that analysis would require considerable research for me and my colleagues in other specialties, and be a truly imposing, nearly impossible challenge for those without medical training. Dr. Sanchez shows us the subtle distinctions between these injuries and how the ancient *swnw* similarly distinguished them to manage each in a rational manner. This could only have evolved from the *swnw* carefully and systematically observing a number of cases. No doubt trial and error informed them in their judgments of what to treat and how to treat it.

The cases that today would go to the hands of an orthopedic surgeon are more easily understood. The need to realign and stabilize broken bones to reduce pain and promote healing is obvious, as is the desirability of replacing dislocations. It is worthy of note that the *swnw* discerned important elements of these procedures that mirror those in use today. Furthermore, the limited pharmacopeia they utilized also reflects careful consideration of both benefit and avoidance of harm.

The inclusion of a Visual Index for the illustrations is a nice innovation. The illustrations are clear, well-labeled and to the point for each case. Figures also clarify some of the cases. This is especially important for the nonmedical reader.

As the text develops, a clear exposition of the thought processes leading to the identifications is clarified via voluminous footnotes. The footnotes also permit us to follow the authors' joint consideration of the work of other scholars in relation to their own and to present alternative interpretations. For the serious reader this is a refreshing approach lacking in many texts. As such, the work becomes accessible to the general public interested in all aspects of Egyptology rather than exiling it to the arena of arcane work for specialists.

The authors' collaboration has provided us important clarification of several terms that had been interpreted by Breasted in a manner that did not make good sense in the medical scenario. For example, in Case #6

Breasted interpreted the word *ryt* to mean “pus,” but the new interpretation to mean “discharge” is more rational. Several other important words, such as *wbnw*, *mtw*, and *dgmy*, are now assessed in relation to their determinatives in the text to correlate with the different wounds, vessels/tendons, and particularly the subtle degrees of alteration of level of consciousness such as torpor, stupor, and coma.

In Case # 41 Breasted identified *bnf* as dung. If that were correct it would be the only instance in the text where a counterproductive and actually harmful medication was prescribed. The authors’ new interpretation as “ox bile” brings the ancient pharmacopeia back to the realm of the rational as a strong case can be made for bile having therapeutic value.

Today we take scientific medicine for granted, but it took thousands of years before any significant advances were made from what the *swnw* practiced. We did not understand the human circulatory system any better than they did until the work of William Harvey in the seventeenth century. Yet the *swnw* did recognize a relationship between the heart and the pulse as seen in Case #1. They further recognized that the intact fused human skull of an adult prevents detection of the pulsation of the brain as can be found in the open fontanelles of a baby or a disastrous injury exposing the brain as in Case #6.

The attention to detail of examination for each case permitted them to discern subtle differences to classify them. These distinctions then permitted them to make astute predictions for the outcome of each case. In fact it was not until well into the twentieth century that we have been able to improve on the treatments they recommended for the neurosurgical injuries cited and thus provide somewhat better prognoses.

We can only guess at the processes by which the ancient physicians reached their conclusions about the appropriate therapies for the forty-eight conditions discussed in this text. Some treatments, such as suturing a laceration, appear so obvious that anyone would accept them. Others, such as the skull injuries, would have required very careful observation to discern subtle differences. Perhaps most important is their avoidance of treatments that might aggravate the problem more than they would assist it. The latter are often found in magic-based therapies as in the Ebers Papyrus and others.

The medical profession did not understand the nature of the infection process until the mid-nineteenth century and even then could do nothing but provide little more than cleanliness and drainage until the dawn of the antibiotic era in the mid-twentieth century. Clearly the *swnw* knew as much and understood the need for cleanliness and the desirability to leave some wounds open or to provide a wick for drainage as in Cases #28 and #39. Furthermore, their limited pharmacopeia did serve to reduce risk or ameliorate infection. Even when the *swnw* following these instructions had little or nothing to offer, they still avoided doing harm. A nice example of this restraint is the demonstration of masterful non-intervention as seen in the patient with neurofibromatosis (Case #45).

The *swnw* who followed this text were often using what are best practices today. A good example is the reduction of a dislocated jaw. The concept is deceptively simple: just push the jaw down and back. But, the unaware therapist who puts his thumb on the back lower molars may be rewarded by a serious bite of the thumb as the jaw snaps shut in place! The directions for this case clearly indicate the operator must place his thumbs past the molars, thus avoiding this hazard.

The initial translation of this work by Henry Breasted from 1920–1930 was an enormous undertaking that transformed our thinking about the ancient practice of medicine. His work in converting the hieratic script to hieroglyphs and then laboriously translating the text is a monument to his scholarship and tenacity. In the intervening years great changes have occurred in the practice of medicine as well as in interpretation and understanding of the ancient Egyptian language.

Every subsequent consideration of this document has been based on Breasted’s hieroglyphic translation. However, the authors of this new assessment have accepted the formidable challenge of returning to the original hieratic script. In the process they show us indications of subtle alterations in the scribe’s work, suggesting fatigue, or the need for breaks to acquire a new pen, or haste, prompting the use of abbreviations or the intro-

duction of an error that required subsequent revision. This new translation and commentary move our understanding forward to a significant degree.

Evidence-based medicine has become the mantra for medical care at the dawn of the twenty-first century. As the term implies, good medical care should be based on solid evidence. It is a sad fact that many of the practices of modern medicine are more hallowed by time and tradition than by factual data. For an example in my own specialty of gynecology, countless women suffered through uncomfortable Pap smear examinations because every text book stated that lubrication should not be used. When actually studied, it was found that the use of a lubricant had no adverse effect at all on the accuracy of the test. Following unverified advice has been part of medicine throughout history.

Were it not for the Edwin Smith papyrus, we would have a totally distorted view of ancient Egyptian medicine. We might consider them superstitious and naively incompetent, but the Edwin Smith papyrus shows us that the patients treated by the standards of this document received care that was as good or better than any place in the world prior to the last 150 years. The volume in hand enhances our appreciation of the sophistication of these ancient physicians in their evaluation and management of this remarkable variety of cases. We can be grateful that Edmund Meltzer and Gonzalo Sanchez were willing to tackle the extraordinary challenge of going back to the original hieratic text and doggedly following through to produce this splendid new addition to our corpus of texts on ancient Egyptian medicine.

*W. Benson Harer, Jr., MD, FACOG*





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## NOTE ON TRANSLITERATION

The authors have adopted the following conventions for transliteration:

The single reedleaf is represented by *i*, the double reedleaf by *y*. The ending *y* is used on nisbe adjectives and the relative word *nty*.

The preposition “to, for,” the genitival adjective in its simple form, and the negative arms as a particle are all transliterated *n*. Where written out, the feminine genitive word is transliterated *nt* and the masculine plural *nw*. It was decided that it would be too cumbersome to transliterate repeatedly *n(y)*, *n(y)t*, *n(y)w* for the inflected forms of the genitive word. As far as the negative arms are concerned, we decided that they should be rendered by a simple *n*, not *nj* or *ni*, especially in view of the use of the negative arms as a variant of the waterline *n* in hieratic of this period, including this document.

A dot is used to separate the formative (if any) and suffix-pronoun subject of a verbal complex (e.g., *sḏm.ḥr.f*) or mutatis mutandis the heavier endings of the Stative (*rḥ.kwi*, *ḥnḥ.ti*), *sḏmty.fy* forms, etc. It is not used to separate feminine and plural endings (e.g., *drt*, *ḏbꜥw*) or the initial augment or prefix added to a verbal stem (*išwy*, *shpr*).

A hyphen is used to separate elements of a compound word or name, for example, *ḥr-ib.f*, *mn-ḥpr-rꜥ*.

Angular brackets are used only to contain elements that are omitted in error by the scribe, not optional ones; thus *sḏm.<i>n.f, <m> bit*.

Curly brackets are used to contain elements that are added or included in error by the scribe, such as *gm.n. {n.} f*.

Square brackets are used only for restorations; e.g., *iwf [wꜥd]*.

Parentheses are used sparingly to enclose optional elements that are not written in the Egyptian text. On the whole they have been avoided in the running transliteration, so as more closely to reflect the text, but used more freely in the notes.

## NOTE ON COLUMN AND LINE NUMBERING

The present work employs the same numbering of the columns of the papyrus as Breasted and Allen. These scholars follow the same numbers as regards the Recto, but Breasted numbers the Verso consecutively with the Recto while Allen begins again with “Verso, Column 1” etc. We do not translate the Verso but in one regard we follow Breasted’s practice more closely, as he used Roman numerals for the columns while Allen uses Arabic numerals. Breasted and Allen refer to the column that originally preceded what we now designate as Column I; this “lost column” (Breasted, *Edwin Smith*, 2:xi–xii) contained the title of the work and the very beginning of Case 1 (ibid.; cf. Allen *AM*, 70). Like Breasted, we use Arabic numerals for the lines.

When we received Smith’s original handwritten manuscript, we found that he uses both Roman and Arabic numerals in the margin. His Roman numerals do not correspond to the columns but are his own numbering of the 48 cases and show how accurately he understood these subdivisions. His Arabic numerals are of the format “1.18” etc. It appears that the first number labels the column, and the number after the point designates the line. The lines are not numbered individually. Smith begins with “0.18” followed fairly closely by “1.1”; it is clear that “0” corresponds to the “lost column” mentioned above. There is, however, a discrepancy, because Smith concludes in his column “21” while there are twenty-two columns and Smith himself states that the Verso comprises five columns (“pages”).

## ABBREVIATIONS

Allen, <i>AM</i>	Allen, James P., <i>The Art of Medicine in Ancient Egypt</i> . New York: The Metropolitan Museum of Art; New Haven: Yale University Press, 2005
Allen, <i>ME</i>	Allen, James P., <i>Middle Egyptian: An Introduction to the Language and Culture of Hieroglyphs</i> . 2nd rev. edition. Cambridge: Cambridge University Press, 2010
Breasted, <i>Edwin Smith</i>	Breasted, James Henry, <i>The Edwin Smith Surgical Papyrus</i> . 2 vols. The University of Chicago. Oriental Institute Publications. Chicago: University of Chicago, 1930
Edel, <i>AG</i>	Edel, Elmar, <i>Altägyptische Grammatik</i> . 2 vols. <i>Analecta Orientalia</i> 34/39. Rome: Pontificio Istituto Biblico, 1955/1964
ESM	Edmund S. Meltzer
Faulkner, <i>CDME</i>	Faulkner, R. O., <i>A Concise Dictionary of Middle Egyptian</i> . Oxford: Griffith Institute Asmolean Museum, 1962. Repr. Frome and London: Butler & Tanner, 1996.
Gardiner, <i>EG</i> <sup>3</sup>	Gardiner, Alan H., <i>Egyptian Grammar</i> . 3rd ed. Oxford: Oxford University Press/Griffith Institute, 1957
<i>GEC</i>	Lefebvre, Gustave, <i>Grammaire de l'égyptien classique</i> . 2nd ed. Le Caire: Institut français d'archéologie orientale, 1955
GMS	Gonzalo M. Sanchez
<i>Grundriss</i>	Grapow, Hermann, Wolfart Westendorf, and Hildegard von Deines, <i>Grundriss der Medizin der alten Ägypter</i> . 9 vols. Berlin: Akademie, 1954–1973
<i>Grundriss</i> 4/1	von Deines, Hildegard, Hermann Grapow, and Wolfhart Westendorf, <i>Übersetzung der medizinischen Texte</i> . Vol. 4/1 of <i>Grundriss der Medizin der alten Ägypter</i> . Berlin: Akademie, 1958
<i>Grundriss</i> 5	Grapow, Hermann, <i>Die Medizinischen Texte in hieroglyphischer Umschreibung Autographiert</i> . Vol. 5 of <i>Grundriss der Medizin der Alten Ägypter</i> . Berlin: Akademie, 1958
<i>Grundriss</i> 6	von Deines, Hildegard, and Hermann Grapow, <i>Wörterbuch der ägyptischen Drogennamen</i> . Berlin: Akademie, 1959
<i>Grundriss</i> 7	von Deines, Hildegard, and Wolfhart Westendorf, <i>Wörterbuch der Medizinischen Texte</i> . Vol. 7 of <i>Grundriss der Medizin der alten Ägypter</i> . 2 vols. Berlin: Akademie, 1961–62
<i>Grundriss</i> 8	Westendorf, Wolfhart, <i>Grammatik der medizinischen Texte</i> . Vol. 8 of <i>Grundriss der Medizin der alten Ägypter</i> . Berlin: Akademie, 1962
Hoch, <i>MEG</i>	Hoch, J. E., <i>Middle Egyptian Grammar</i> . SSEA Publications 15. Mississauga, Ontario: Benben, 1996
<i>Urk.</i>	Steindorff, Georg, ed., with Kurt Sethe and Heinrich Schäfer, <i>Urkunden des ägyptischen Altertums</i> . 8 vols. Leipzig: Hinrichs, 1904–
<i>Wb.</i>	Erman, Adolf, and Hermann Grapow, <i>Wörterbuch der ägyptischen Sprache</i> . 5 vols. Leipzig: Hinrichs, 1926–1931