Introduction

The history of skull base surgery

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Neurosurgery is of great interest to historians of medi-
cine and technology because it is relatively young, because
it developed in an era of journals and publications, because
lines and traditions of training and mentorship are rela-
tively clear, and because the technologies that enabled the
evolution of the profession and acted as inflection points
in the emergence of certain surgical approaches and pro-
cedures are at once well documented and remarkably un-
ambiguous. To the extent that is the case for neurosurgery
as a whole, it is even more so for surgery of the skull base.

To trace the history of skull base surgery along its
full expanse is to begin with Horsley and pituitary tumors
(unless one wants to start even earlier with the treatment
of trigeminal neuralgia); to move to Cushing’s work in
the same arena (but also that of many others as well);
to emphasize the impact of microsurgical techniques and
new imaging modalities; to outline once radically inno-
vative, but now widely practiced anatomical approaches
to the skull base; to emphasize the importance of team
approaches; to discuss emerging therapeutic strategy as
well as instrumentation and techniques; to acknowledge
the importance of advances in neuroanesthesia and the
medical and perioperative care of the neurosurgical pa-
tient; and to recognize the contributions of the many in-
dividuals who, over the past 25 years, have added to and
furthered the field in these and other ways.

It is not hard to point to leading individuals and impor-
tant techniques. It is perhaps more difficult to frame them
in a meaningful historical perspective because the work
has occurred relatively recently, in the time frame histo-
rians call “near history.” Difficulties arise from both an
evaluative and a nosological standpoint. For example, from
an evaluative standpoint, how does one stratify the relative
importance of corticosteroids, osmotic diuretics, and CSF
drainage techniques and technologies in the control of in-
tracranial pressure and the facilitation of exposure for base
of skull surgery? How does one think about the idea of
hybrid surgery and stereotactic radiation? What will be the
long-term view of anatomical approaches to giant basilar
aneurysms in the light of endovascular surgery? Have we
reached a tipping point in the management of vestibular
schwannomas, given the availability of and the outcomes
associated with stereotactic radiosurgery?

From a nosological standpoint, should we think about
base of skull surgery in terms of anatomical approaches? One
textbook that does just that starts with subfrontal ap-
proaches and then moves around the calvaria and down
to the petrous and temporal region in a Cook’s tour of
exposure, in the tradition of Henry’s Extensive Exposure
and comparable surgical classics.1,6 Other publications
have explored a set of technologies.5,7,10 Another focuses
on the contribution of great men.9 Many surgeons have
written about specific particular pathologies at the skull
base.2,8,11 It is likely that the next generation of essays on
this subject will reflect the results of molecular diagnos-
tics, genomics, and sophisticate outcome studies as well
as currently emerging technologies (such as robotics and
heavy particle radiation), and continued innovation in sur-
gical techniques.

This issue of Neurosurgical Focus contains a series
of essays that discuss various elements of the history of
skull base surgery. López-Serna, Elhadi, and Thakur and
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their colleagues write about the premodern period. El-
hadi and colleagues also comment on the introduction
of radiography in early neurosurgery. Gross and Grossi
and their colleagues concentrate on petrosal approaches;
Schmitt and Jane on third ventriculostomy; and Chitti-
boina and colleagues on the history of a very simple but
ubiquitous instrument, the Freer elevator, and its inventor.
In contrast to the more comprehensive overviews written
by Goodrich, Donald, and others, these essays concen-
trate on selected details. While it is important not to miss
the forest for the trees, sometimes the trees are worth
studying no less than the forest.3,4

Disclosure

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