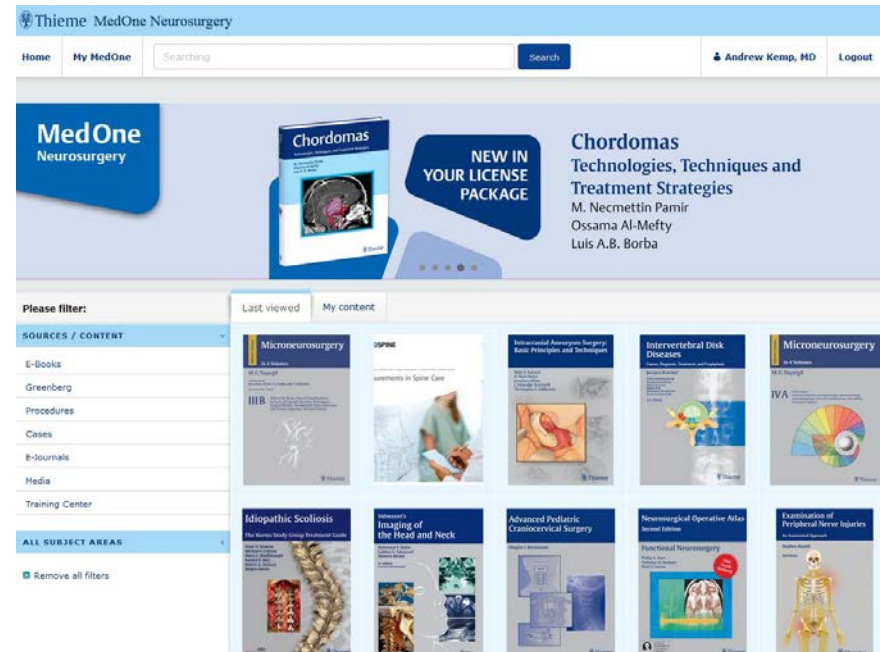


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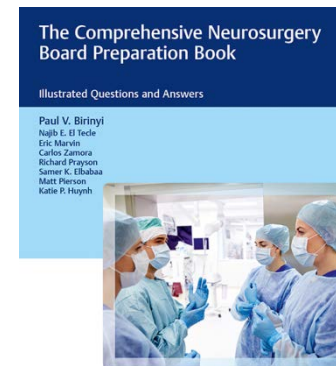
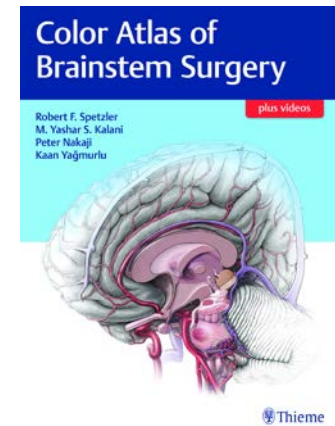
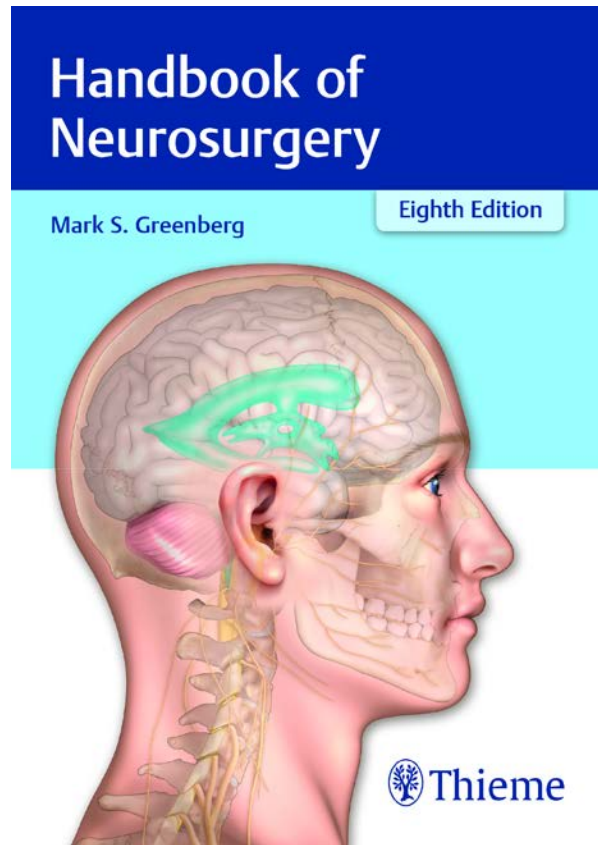
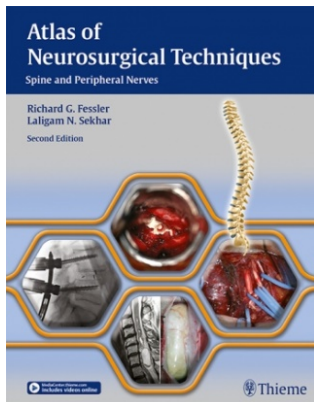
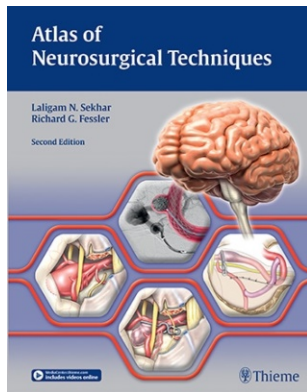
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Treatment

Statistics of learning progress

1788 / 2387



Question
1788

True or False. Patients who undergo decompressive laminectomies are likely to develop lumbar instability?

Answer

True or False. Patients who undergo decompressive laminectomies are likely to develop lumbar instability?

false -
Less than
1%

Greenberg 8th
edition, Chapter
72.8.4

Correctly answered repeat

< Previous question

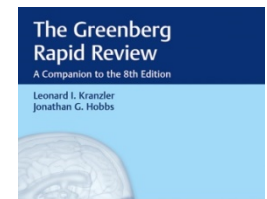
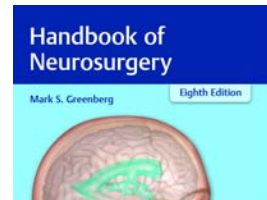
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Step-by-step instructions for 418 surgical procedures

Endoscopic Approach to Craniopharyngioma

Nancy McLaughlin, Leo F. S. Ditzel Filho, Daniel M. Prevedello, Daniel F. Kelly, Ricardo Carrau, Amin Kassam



Quick access

Introduction and Background | Operative Detail and Preparation | Outcomes and Postoperative Course | References

Introduction and Background

Definition, Pathophysiology, Epidemiology, and Histology

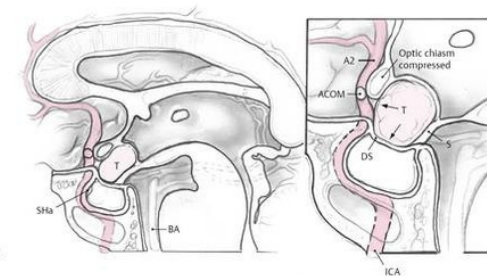
- Craniopharyngiomas are rare tumors of the central nervous system that occur at a rate of 1.3 per million person-years. Overall, they account for 2–5% of all primary intracranial neoplasms. Although they can be diagnosed at any age, craniopharyngiomas typically present a bimodal age distribution with a first peak in children 5–14 years old and a second peak in adults 50–74 years old.
- Craniopharyngiomas arise along the path of the craniopharyngeal duct, a canal connecting the stomodeal ectoderm with the evaginated Rathke pouch. Some authors have proposed that these tumors arise from neoplastic transformation of embryonic squamous cell rests of the involuted craniopharyngeal duct. Others have suggested that craniopharyngiomas result from metaplasia of adenohypophyseal cells in the pituitary stalk or gland.
- Craniopharyngioma are benign grade I tumors according to the World Health Organization classification. Histologically, two subtypes have been recognized, the adamantinomatous (most common, predominantly in young patients) and the papillary (almost exclusively in adults). Transitional or mixed forms have also been reported.
- Despite its benign histology, craniopharyngiomas tend to adhere and infiltrate surrounding structures. This characteristic accounts for their aggressive behavior and potentially significant morbidity and mortality. Rarely, craniopharyngiomas may present a malignant transformation, potentially and questionably induced by radiation therapy.

Clinical Presentation

- As craniopharyngiomas grow within the sellar/parasellar region, they may exert mass effect on critical structures of the nervous system including the optic apparatus, pituitary stalk and gland, floor of the third ventricle, hypothalamus, and cerebral vasculature of the circle of Willis.
- Headache, nausea/vomiting, visual disturbances, and symptoms related to hypothalamopituitary dysfunction are among the most commonly reported clinical manifestations. Less common presenting features include motor weakness, seizures, psychiatric symptoms, autonomic disturbances, and precocious puberty.
- Symptomatic elevated intracranial pressure may occur in any age population, resulting from obstruction of the foramen of Monro or of the aqueduct of sylvius by the tumor.

Staging

- To date, authors have proposed various classification systems depending on their relation to the sella turcica, diaphragm sellae, optic chiasm, and third ventricle. The infundibulum is the key anatomic landmark that helps guide the modular exposure of endoscopic endonasal approaches (EEA) for craniopharyngioma resection (Fig. 60.1), as previously described by Kassam et al.
- Type I craniopharyngiomas* are preinfundibular, located immediately anterior to the pituitary stalk (most accessible). They are located in the suprasellar space, guarded inferiorly by the diaphragm, superiorly by the displaced chiasm, posteriorly by the pituitary stalk, and laterally by the carotid arteries. Preinfundibular lesions are the most direct craniopharyngiomas to approach through an endonasal route.
- Type II craniopharyngiomas* are transinfundibular lesions that grow within the long axis of the infundibulum, widening it circumferentially. Such lesions often create a component in the subchiasmatic space and extend rostrally through the tuber cinereum and into the third ventricle. In these cases, the stalk forms the capsule of the tumor.
- Type III craniopharyngiomas* are retroinfundibular lesions, located posterior to the pituitary stalk (most challenging). They are bounded anteriorly by the pituitary stalk and posteriorly by the mammillary bodies and basilar apex. The tumor may extend rostrally (type 3a), through the membrane of Lilliequist, to ultimately encroach or invade the third ventricle. It may also extend caudally (type 3b) to fill the interpeduncular fossa, potentially encroaching on the posterior circulation. Laterally, retroinfundibular craniopharyngiomas are bounded by the oculomotor nerves as they travel forward toward the cavernous sinus and the posterior communicating arteries as they travel between the posterior cerebral artery (P1) and the internal carotid artery (ICA).
- Type IV craniopharyngiomas* are pure intraventricular tumors. These tumors may best be approached by a transcranial route as the endonasal corridors are often limited by the stalk and chiasm.



Management and follow-up tips for 225 cases

Brain Abscess

Pedro M. Ramirez and Martina Stippler

Quick access

[Case Presentation](#) | [Questions](#) | [Overview](#) | [Answers](#) | [Summary](#) | [Annotated References](#)

Case Presentation

A 52-year-old man with no previous medical history was brought to the emergency department with tonicoclonic seizure on the right side. The patient was afebrile, postictal at examination, but had no focal neurological deficit. He had a history of alcohol abuse (12-pack of beer a day). Laboratory workup showed: white blood cell (WBC) count 18.6×10^3 (neutrophil 91%); erythrocyte sedimentation rate (ESR) 10 (0–25); C-reactive protein (CRP) 1.4 (< 0.3), and blood glucose is 148 mg/dL. Noncontrast computed tomographic (CT) scan and enhanced magnetic resonance imaging (MRI) were obtained (Fig. 140.1). Blood cultures were negative and the patient is started on empirical antibiotic therapy. Two weeks after empirical therapy was the patient continued having headaches, the WBC count was 3.4×10^3 , ESR was 15, and CRP was 0.5. A follow-up MRI scan was obtained (Fig. 140.2). The patient undergoes stereotactic needle aspiration, which showed a positive culture for *Nocardia*. Antibiotic therapy was titrated with ceftriaxone for 6 weeks and trimethoprim/sulfamethoxazole for 12 months.

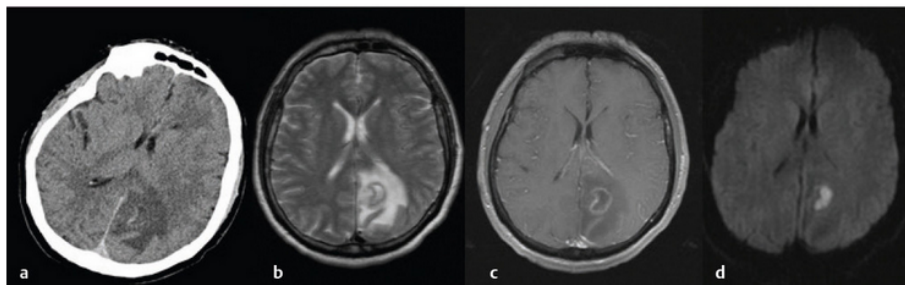


Fig. 140.1 Imaging studies at the time of admission. (a) Computed tomographic scan without contrast showing left parietal edema with a central rim. (b) T2-weighted magnetic resonance imaging (MRI) demonstrating the hyperintense lesion in the left parietal lobe with surrounding vasogenic edema. (c) Contrast-enhanced T1-weighted MRI demonstrating a left parietal ring-enhancing lesion. (d) Diffusion-weighted imaging revealing restricted diffusion.

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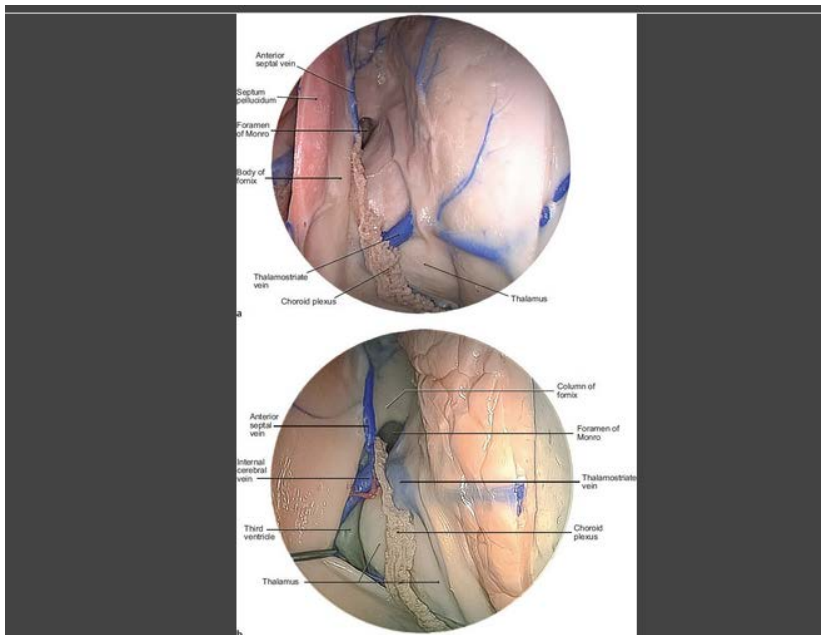


Figure 1.12. (a,b) Endoscopic views of the exposure of the third ventricle.
Source: [Color Atlas of Brainstem Surgery > Internal Anatomy of the Brainstem](#)

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Journal of Neurological Surgery Part B Skull Base 2017; 78(02): 132 - 138
DOI: 10.1055/s-0036-1593469

Original Article

Shahid, Saman; Hussain, Kamran

Role of Glioblastoma Craniotomy Related to Patient Survival: A 10-Year Survey in a Tertiary Care Hospital in Pakistan

Department of Sciences and Humanities, National University of Computer and Emerging Sciences (NUCES), Foundation for Advancement of Science and Technology (FAST), Lahore, Pakistan
Department of Neurosurgery, Federal Post Graduate Medical Institute, Shaikh Zayed Hospital, Lahore, Pakistan

Quick access

Abstract | Introduction | Patients and Methods | Results | Discussion | Concluding Remarks | Acknowledgment | References

Abstract

A total of 270 glioblastoma patients were treated for tumor resection during 2004 to 2014. The following variables were examined: patient age group (PAG) and percent of the extent of resection (EOR) in four types of resections: gross total resection (GTR), subtotal resection (STR), partial resection (PR), and biopsy/decompression (BD). The Karnofsky performance scale (KPS) was used and the average survival time noted. The least survival time (7 months) was noticed in the patient age group 18 to 35 years with biopsy only, whereas, the maximum survival time (14.5 months) was noted with the patient age group 54 to 71 years by gross tumor resection. The largest number of ($n = 76$) patients had PR (80%) and these patients had an average survival time of 10.5 months. Total 190 patients out of 270, with EOR (100–80%) had a KPS score "0" (80 and above) and total 80 patients out of 270 patients, with EOR (50%) had a KPS score "1" (below 80). The correlation was statistically significant at ($p < 0.050$) for EOR (%) and KPS score (0/1) only. Correlation analysis showed that the maximum resection has a strong impact on the glioblastoma patient's survival. A lesser EOR correlated with poor quality of life and also a decreased survival of patients.

Introduction

Searching

A highly sophisticated search algorithm ranking search terms by relevance across all content sets

The screenshot displays the Thieme MedOne Neurosurgery search interface. At the top, the navigation bar includes 'Home', 'My MedOne', a search input field containing 'intracranial', a 'Search' button, and user information for 'Andrew Kemp, MD' with a 'Logout' link. The search results are organized into four columns:

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- IN CONTENT COLLECTIONS:** A list of articles, each starting with a yellow 'N surg' icon. The titles include 'Intracranial Atherosclerosis: Medical and Interventional Management', 'Intracranial Atherosclerosis: Indications for Surgical Revascularization', 'Intracranial Hemorrhagic Dissections', 'Spontaneous Intracranial Hemorrhage: Correction of Coagulopathy', 'Ruptured Intracranial Aneurysms: Indications for Microsurgery', 'Unruptured Intracranial Aneurysm Natural History', 'Unruptured Intracranial Aneurysm Microsurgical Treatment', 'Unruptured Intracranial Aneurysms: Endovascular Treatment', 'Intracranial Vasculitis', 'Primary Intracranial Anomalies', and 'Differential Diagnosis by Location or Radiographic Finding - Intracranial'.
- IN E-BOOKS AND E-JOURNALS:** A list of book opening pages, each with a small book icon. The titles include 'Book opening page Batjer, Samson, White, ... Intracranial Aneurysm Surgery, Basic Principles and Techniques', 'Book opening page Lunsford, Sheehan Intracranial Stereotactic Radiosurgery', 'Book opening page Yasargil Microneurosurgery, Volume I. Microsurgical Anatomy of the Basal Cisterns and Vessels of the Brain, Diagnostic Studies, General Operative Techniques and Pathological Considerations of the Intracranial Aneurysms', and 'Book opening page Smith, Young, Teddy, Ya... Microneurosurgery, Volume II. Clinical Considerations, Surgery of the Intracranial Aneurysms and Results'.
- IN AUTHORS:** This column is currently empty.

E-Book View

Alan R. Cohen
Pediatric Neurosurgery

Search term: ischemic stroke

Section I Introduction

Section Editor: Tae Sung Park

This section covers a wide range of fundamental issues in pediatric neurosurgery and contains seven chapters. [Chapter 1](#), "Basic Surgical Technique," provides steps of preoperative and operative planning and execution of surgery in the operating room. Dr. Cohen, the editor of this textbook, emphasizes the importance of sound surgical judgment, setting the tone in the operating room, and the goal of getting the patient safely and expeditiously through the surgery and out of the operating room. Other operative details of neurosurgery are also provided. [Chapter 2](#) addresses common diagnostic and therapeutic procedures: assessment of shunts, lumbar puncture, external ventricular catheter placement, and subdural taps. In addition to operative detail and preoperative planning, the authors describe the equipment needed and provide expert suggestions. [Chapter 3](#) covers important areas of pediatric neuroanesthesia, such as special equipment, vascular access and positioning, management of fluids, and blood loss. The authors also address the anesthetic considerations for specific neurosurgical procedures. [Chapter 4](#), "Pre- and Postoperative Management of the Neurosurgical Patient," starts with a review of cerebrovascular and CSF physiology. It ends with a review of common clinical problems in the perioperative period, such as causes of delayed emergence from anesthesia, choice of intravenous fluids for different age groups, and management of hyponatremia and hypernatremia. [Chapter 5](#) is devoted to the positioning of children during surgery. It includes descriptions of special cautions in rigid cranial immobilization, supine positioning for specific common operative procedures, prone positioning for tumor surgery, and lateral positioning for lumboperitoneal shunt and baclofen pump insertion. [Chapter 6](#) addresses intraoperative neurophysiological monitoring in children. It not only provides details of various monitoring techniques, but also discusses tailored monitoring for specific procedures. [Chapter 7](#) addresses surgical safety. The chapter focuses on three major and related strategies derived from highly reliable organizations, which have gained widespread acceptance: the development of a culture of safety, the creation of effective surgical teams, and the use of communication support tools—specifically, checklists and handoff scripts in patient care. This section, then, provides the reader with a comprehensive overview of basic principles that should be followed for the practice of safe and successful pediatric neurosurgery.

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ischemic stroke

6 Intraoperative Neurophysiological Monitoring During Pediatric Neurosurgical Procedures > 6.1 Introduction and Background

6.1 Introduction and Background

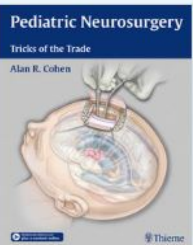
The goal of pediatric neurosurgery is to cure or meliorate disease of the nervous system using surgical methods that maximize benefit to the child while minimizing risk. Intraoperative neurophysiological monitoring is one of the most important modalities used to achieve these goals. The history of what can be done, how it can be done, and its utility for the surgeon has evolved along with other technical and conceptual advances in the procedural specialties. Intraoperative monitoring is a relatively young field, and neurosurgeons in general, and pediatric neurosurgeons in particular, may have varying experiences with different sorts of monitoring modalities and practitioners.

One of the earliest uses of intraoperative monitoring, which had as its aim minimizing potentially preventable damage to neural structures, was cranial nerve monitoring during cerebellopontine angle and otologic surgery. The professionals involved in this aspect of the emerging field often came from backgrounds in audiology. Another early use of monitoring in the general sense was intraoperative corticography to assess epileptogenic tissue during seizure surgery, most often performed by neurologists or neurophysiologists specializing in epilepsy. As somatosensory and later motor evoked potentials came into use in scoliosis and spine tumor surgery, the field of intraoperative monitoring began to expand, becoming an independent specialty, arising from these various lineages. As its use in children may

6.3 Intraoperative Neurophysiological Monitoring Modalities in Children
Pediatric Neurosurgery > 6 Intraoperative Neurophysiological Monitoring During Pediatric Neurosurgical Procedures > 6.3 Intraoperative Neurophysiological Monitoring Modalities in Children

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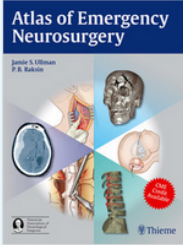
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Jamie S. Ullman, Patricia B. Raksin
Atlas of Emergency Neurosurgery



Atlas of Emergency Neurosurgery
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I Cerebral Trauma and Stroke > 7 Invasive Neuromonitoring Techniques > Closing

Closing

- ▶ The incision site is irrigated. The skin incision is closed with 3.0 nylon sutures.
- ▶ A sterile transparent dressing is placed over the incision site (or around the bolt apparatus).
- ▶ Calibration
 - ▶ **EVD:** after catheter placement, the drain height is selected (in cm H₂O). The drainage system is set with the zero point level to the top of the patient's ear. This corresponds to the approximate level of the foramen of Monro—the midpoint of the ventricular system. The pressure waveform may be recorded by attachment to an external strain gauge or by insertion of a fiberoptic pressure probe or micro strain gauge device into the EVD lumen (and connection to a stand-alone monitor box).
 - ▶ **Parenchymal ICP monitor:** the fiberoptic pressure probe is attached to a stand-alone monitor box and zeroed with respect to air prior to insertion into the seated bolt apparatus.
 - ▶ **Brain tissue oxygen monitor:** Calibration is achieved through the use of a smartcard.
 - ▶ **Cerebral blood flow monitor:** To ensure that the probe is optimally placed, the K value on the monitor should be between 4.8 and 5.6 and the probe position assistant (PPA) below 2. The K value varies depending on the conductivity of the tissue. The K value of white matter is between 4.8 and 5.9. PPA indicates the artifact created by the pulsation of the brain tissue (if the probe is close to a vessel). A value of 0 indicates no artifact.
 - ▶ **Jugular venous saturation monitor:** Once correct probe position has been verified, light intensity calibration of the oximetry system can be performed. A blood sample from the tip of the catheter is also sent for analysis to confirm the value on the oximetry system. Frequent recalibration is required and should be prompted by any sudden change in the jugular venous saturation—prior to any alteration of medical management.

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Closing

If mechanical failure is suspected, the EVD collection system may need to be changed. If cellular debris is suspected, catheter irrigation using a small volume (less than 2 ml) of sterile isotonic normal saline is used to restore flow and is performed under strict sterile conditions.
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Temporal Arteritis
From: [Neurosurgery Knowledge Update. A Comprehensive Review](#)
(2015; 1st Edition)

40 Temporal Arteritis

- Case Presentation
- Questions
- Overview**
- Answers
- Summary
- Annotated References

Temporal Arteritis


Joseph G. Adel

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Case Presentation | Questions | Overview | Answers | Summary | Annotated References

Case Presentation

A 67-year-old woman presented with a 10-day history of right-sided headaches resistant to over-the-counter analgesics. Her examination was significant for mild fever, right scalp tenderness, and a visual field deficit in the right eye. Laboratory testing revealed an erythrocyte sedimentation rate (ESR) of 90 mm/h and a C-reactive protein (CRP) of 40 mg/dL. Given the suspicion of giant cell arteritis (GCA), the patient was started on high-dose steroids and referred for temporal artery biopsy. Biopsy results were consistent with GCA. The patient improved clinically and sero-logic inflammatory markers normalized.



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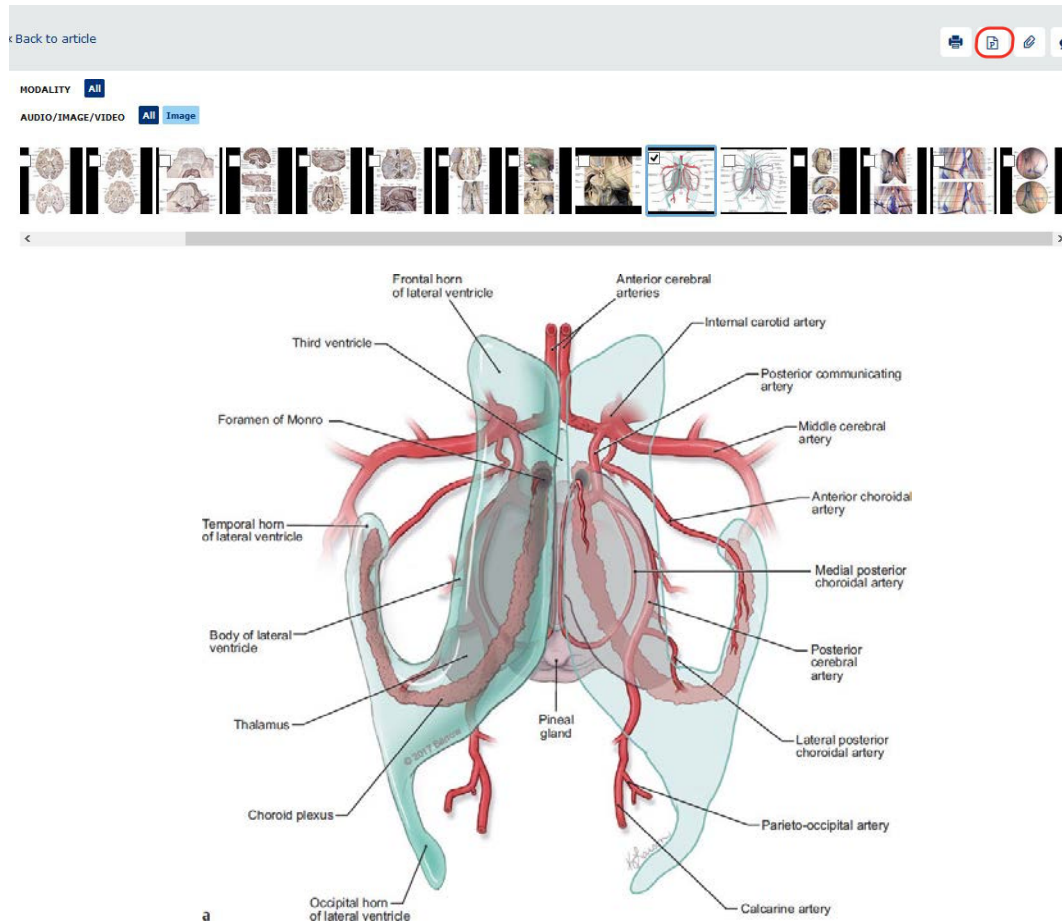


Figure 1.8. Superior view of the relationship of the cerebral (a) arteries and (b) veins to the lateral and third ventricles.

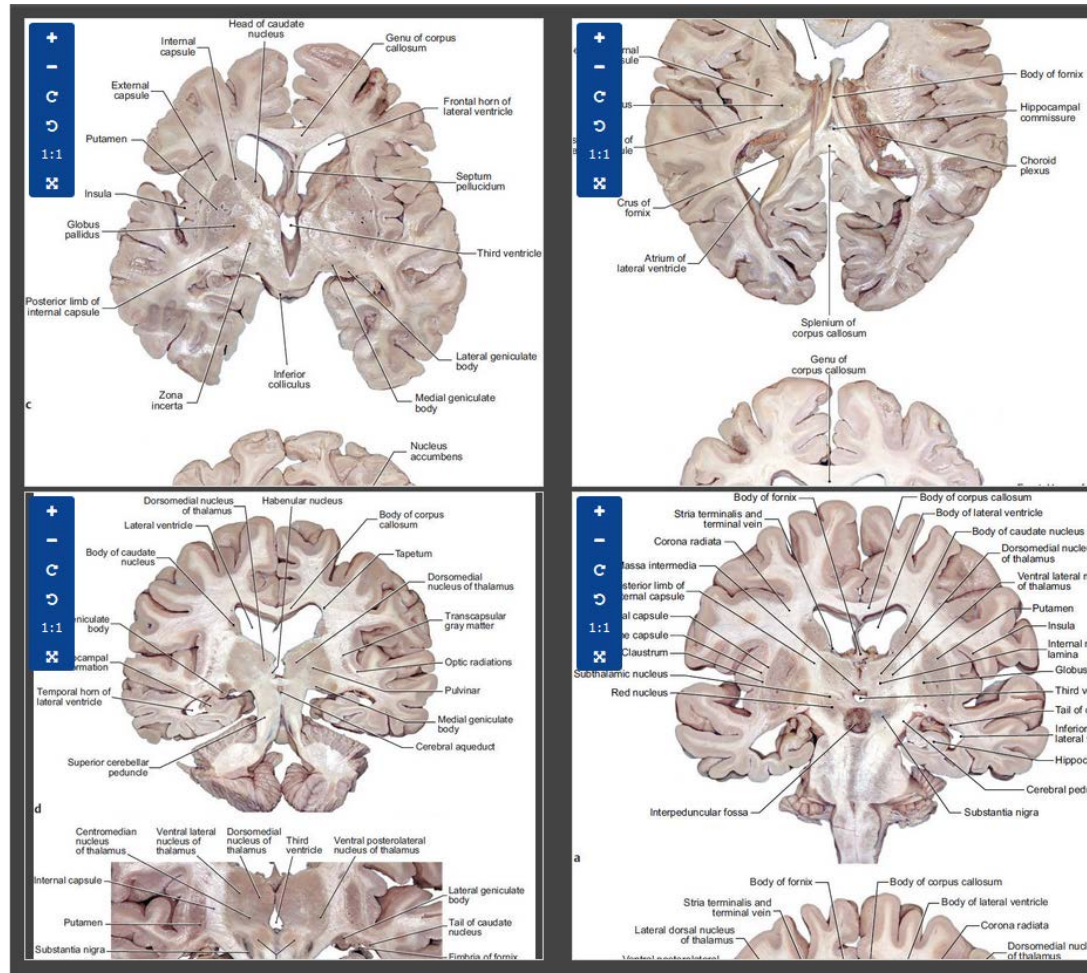
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