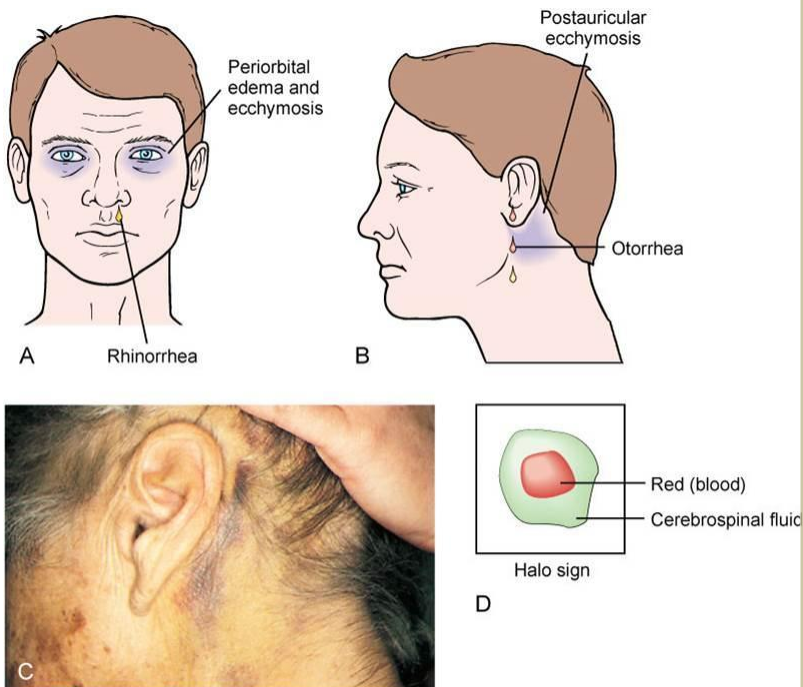


Cerebrospinal Rhinorrhoea and Homoeopathy



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Definition

CSF rhinorrhoea is discharge of cerebrospinal fluid through a fistula (Psora/ Syphilis) between the subarachnoid space and the nasopharynx, either direct via the anterior cranial fossa and para nasal sinuses (PNS) or indirect from the middle or posterior fossa via the eustachian tube with an intact tympanic membrane.

Historical Perspective

- First described by Galen, 200 B.C.
- The first well-succeeded surgical approach was attributed to Dandy in 1926.

Causes and types

Traumatic

Acute / Early - within 1 week

- Main cause of CSF leak is head trauma, particularly, basilar skull fracture (Causa occasionalis)

Delayed - month/year later

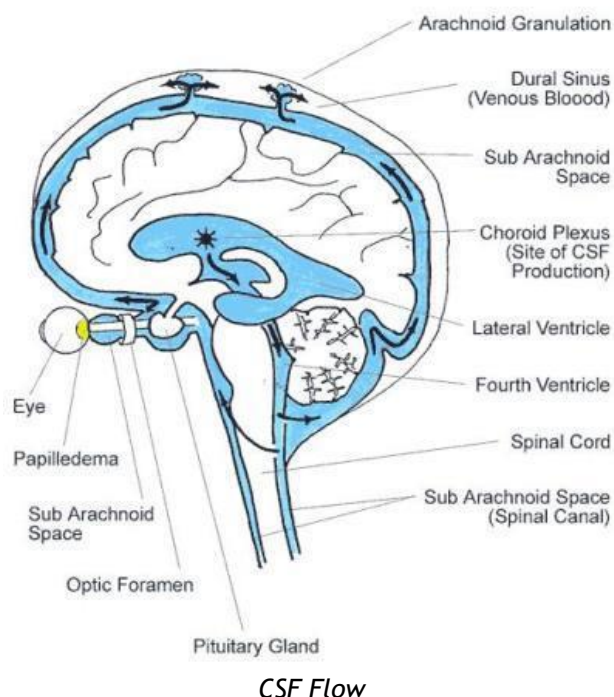
- Lysis of clot in the area of fracture (Syphilis)
- Resolution of soft tissue edema (Psora)
- Loss of vascularity with necrosis of soft tissue around the wound (Psora/ Syphilis)
- Delayed increase in intra cranial pressure (ICP) after trauma (Sycosis)

Non-surgical

- Blunt trauma - Basilar skull fracture (Causa occasionalis)
- Projectile trauma (Causa occasionalis)

Surgical / Iatrogenic / Post-operative leaks

- Craniotomy (Causa occasionalis)
- Paranasal sinus surgery (Causa occasionalis)
- Skull base tumor ablation (Causa occasionalis)
- Transsphenoidal surgery (Causa occasionalis)



Spontaneous / Non-traumatic

High-Pressure Flow

- Due to increased intra cranial pressure. (Psora/Sycosis)

Intracranial tumors

- Pituitary tumors are the most common neoplastic cause of spontaneous CSF leak, due to sellar erosion. (Psora/Sycosis/Syphilis)

Hydrocephalus

- Due to high pressure of CSF. (Psora/Sycosis)

Low-Pressure Flow

- Bony erosion, Osteomyelitis, Osteonecrosis. (Psora/Syphilis)
- Sellar atrophy (Syphilis)
- Olfactory atrophy / Focal cerebral atrophy (Syphilis)
- Congenital defects of skull base (Syphilis)
- Pneumatized bone (Psora/Sycosis/Syphilis)
- Idiopathic

Signs and symptoms

Discharge

- Unilateral clear watery nasal discharge with a salty taste
- Dripping in the back of throat

Headache

- Recurrent attacks of headache, fever and meningitis in a patient with history of head trauma.
- High pressure - build up over time & relieved by sudden discharge of fluid.
- Low pressure - postural headache relieved by reclining.

Reservoir sign

- Large volume of fluid flowing out of the nose during a change in head position - indicates that a CSF-filled sinus has drained at once.

Provocative Tests

- Occult CSF leak can be made manifest with the aid of
- Valsalva maneuver
- Jugular venous compression
- Flexing the neck in sitting position

Target sign/Halo sign

- Pseudochromatographic pattern produced by differential diffusion of CSF admixed with blood or other serosanguinous fluid on filter paper - CSF produces a "Bull's eye pattern" with blood in the center.

Anosmia

- Unilateral/bilateral anosmia - defect or leak in the region of cribriform plate.

Nervous symptoms

- Imbalance, dizziness, hearing loss, VII nerve dysfunction, temporal bone fracture.

Optic nerve lesion

- Injury in the region of tuberculum sellae, sphenoid sinus and the posterior ethmoids.

Glucose

- Rhinorrhea is applied to glucose oxidase strips and color change is observed.
- High false positives - tears and mucus can produce change on the glucose oxidase strips as well.

B2 Transferrin

- B2 transferrin protein band is identified in CSF only.

B Trace Protein

- 2nd most common protein in CSF (albumin 1st)
- Produced by meninges and choroid plexus
- Present in serum but very low level

Complications

- Over drainage of CSF - pneumocephalus, intracranial haemorrhage
- High CSF protein concentration - Blockage
- Meningitis - incidence can be reduced by tunneling the external catheter and by prophylactic antibiotics

Diagnosis

- Plain X Ray Skull for basilar skull fracture and air-fluid level in the PNS
- CT with bone windows
- CT cisternography
- MRI
- Neuroimaging- Tracer study



CSF Leak

Treatment

Conservative

- Position - elevated head 30-45° for cranial leaks.
- Avoidance of sneezing, coughing, straining.

Surgical

- Repair of leakage.

Homoeopathic treatment

Cerebrospinal Fluid Rhinorrhoea- abrom-a. abrot. acon-ac. **Acon.** aesc. aeth. **Agar.** **Agath-a.** agn. ail. alco. **ALL-C.** aloe alum-p. alum-sil. **Alum.** am-br. am-c. am-caust. **Am-m.** am-pic. ambr. **Ambro.** amyg-p. **Anac.** anag. androc. **ANG.** **Ant-c.** ant-s-aur. **Ant-t.** anth. anthraci. **Anthraco.** antip. ap-d. ap-g. aphis apis apoc-a. apom. aq-mar. **Aral.** **Arg-met.** **Arg-n.** arist-cl. **ARN.** **Ars-i.** ars-s-f. **ARS.** **ARUM-T.** arund. **ASAF.** asar. aspar. astra-e. aur-ar. aur-i. **Aur-m-n.** **Aur-m.** aur-s. **AUR.** bad. bamb-a. bapt. **Bar-c.** **Bar-m.** bell-p-sp. bell-p. **BELL.** berb. beryl. borx. both. botul. bov. **Brom.** **Bry.** bufo cadm-met. cain. calc-ar. **Calc-f.** calc-i. calc-m. **CALC-P.** **CALC-S.** calc-sil. **CALC.** Calen. camph. cann-i. canth. **Caps.** **CARB-AC.** carb-an. **Carb-v.** carbn-s. carc. card-m. cassia-s. castm. **Caust.** cedr. cench. **CHAM.** chel. **Chin.** chinin-ar. chir-fl. chlor. **Cic.** cimic. cina cinnb. cinnm. **Cist.** clem. cob-n. cob. coc-c. coca **Cocc.** cod. coff. colch. coloc. **Con.** cortico. cortiso. croc. crot-h. crot-t. cub. cupr-ar. **Cupr.** **Cycl.** cypra-eg. **Daph.** des-ac. dios. diphtox. dros. **Dulc.** **Elaps** eucal. **Eup-per.** eup-pur. euph. **EUPHR.** fago. ferr-ar. **Ferr-i.** ferr-m. **Ferr-p.** **Ferr.** fic-m. **Fil.** **FL-AC.** flor-p. gels. germ-met. glon. glyc. granit-m. **GRAPH.** **Guaj.** **Guare.** ham. hecla hed. **Hell.** **HEP.** **Hydr.** **Hydrog.** **Hyos.** **HYPER.** **Ign.** ignis-alc. ind. **Iod.** **IP.** irid-met. just. **Kali-bi.** kali-br. **Kali-c.** kali-i. kali-n. **Kali-p.** **KALI-S.** kali-sil. kola kreos. **Lac-c.** lac-h. lach. **Lap-a.** laur. lavand-a. **Led.** lem-m. lil-t. limest-b. **Lob.** luna **LYC.** lyss. m-ambo. m-arct. mag-c. mag-f. **Mag-m.** mag-p. mag-s. mang-act. mang-p. mang. marb-w. med. melal-alt. meli. meny. merc-c. **MERC.** merl. **Mez.** mim-p. moni. morg-p. mur-ac. **Naja** naphtin. **NAT-AR.** **Nat-c.** **NAT-M.** nat-n. nat-p. **NAT-S.** nat-sil. **NIT-AC.** nux-m. **NUX-V.** **Ol-j.** olib-sac. olnd. oncor-t. **Op.** oscilloc. osm. ox-ac. ozone pall. par. parathy. petr-ra. **Petr.** **Ph-ac.** phel. **PHOS.** **Phyt.** pic-ac. pin-con. pitu-a. pitu-gl. **PLAN.** **PLB-I.** plb-xyz. **PLB.** podo. positr. propl. **Psor.** **PULS.** rad-br. ran-b. ran-s. rhod. rhus-t. ribo. rob. rumx. **RUTA** sabad. sabin. sacch-a. sal-ac. salam. samb. **Sang.** **Sangin-n.** **Sarr.** sars. sec. **Seneg.** **SEP.** ser-a-c. **SIL.** sin-n. skook. sol-ni. **SPIG.** spira. spong. squil. stann. **Staph.** staphycoc. stram. stront-c. **Stry.** succ-ac. **Sul-ac.** sul-i. **Sulph.** syc. **SYMPH.** **Syph.** tab. tarent. tax. **TELL.** ter. **Teucr.** thala. **THER.** thres-a. **THUJ.** **Thyr.** trif-p. tritic-vg. **Trom.** tub-a. tub-d. tub-k. tub. ulm-c. valer. vanad. vanil. ven-m. verat. verb. viol-o. viol-t. wies. yuc. zinc-m. **Zinc-p.** zinc-s. zinc. zing.

EAR - DISCHARGES - birth, from viol-o.

EAR - DISCHARGES - chronic - left aur. **Graph.** **Puls.**

EAR - DISCHARGES - chronic - right tub.

EAR - DISCHARGES - chronic aur. bar-c. borx. cadm-met. calc-f. calc-i. **Calc-s.** calc. **GRAPH.** hydr. **KALI-BI.** kali-i. kali-p. **Lap-a.** lyc. merc. petr. psor. **Puls.** sil. sulph. tell. tub.

EAR - DISCHARGES - clear bry. **TELL.**

EAR - DISCHARGES - copious **Bar-m.** caust. **Fl-ac.** **Kali-bi.** kali-i. **Lach.** **Merc.** psor. **PULS.** skook. **Sulph.** tarent. tell.

EAR - DISCHARGES - watery ars. asaf. bry. calc-sil. calc. **Carb-v.** **Cist.** **Elaps** **Graph.** **Hydr.** **Kali-bi.** **KALI-S.** kreos. **Merc.** nat-m. phos. podo. puls. ser-a-c. **SIL.** spong. staphycoc. sulph. **Syph.** **TELL.** thuj. ulm-c. vanil.

GENERALS - CARIES - Bone, of **ANG.** **Anthraco.** **Arg-met.** **Arn.** **Ars.** **ASAF.** aur-ar. aur-i. **Aur-m-n.** **Aur-m.** **Aur.** bell. both. bry. **Calc-f.** **Calc-p.** calc-s. calc-sil. **Calc.** caps. carb-ac. caust. chin. cinnm. **Cist.** clem. colch. con. **Cupr.** dulc. euph. ferr. **FL-AC.** graph. **Guaj.** **Guare.** hecla **Hep.** **Iod.** kali-bi. **Kali-c.** **KALI-I.** kali-p. kreos. lach. **LYC.** mang. **MERC.** **Mez.** nat-c. nat-m. nat-p. nat-sil. **Nit-ac.** **Ol-j.** op. petr. **Ph-ac.** **Phos.** **Psor.** **Puls.** rad-br. rhod. rhus-t. ruta sabin. sal-ac. sec. **Sep.** **SIL.** spong. **Staph.** stront-c. **Sulph.** syph. tarent. tell. ter. **THER.** thuj. tub-k. tub.

GENERALS - INJURIES - Bones; fractures of - slow repair of broken bones anthraci. asaf. calc-ar. calc-f. calc-i. **CALC-P.** **CALC.** calen. des-ac. **Ferr.** fl-ac. iod. lyc. mang-act. mang. merc. **Mez.** nit-ac. **Ph-ac.** phos. puls. **RUTA** sep. **Sil.** staph. succ-ac. sulph. **SYMPH.** **Thyr.**

GENERALS - INJURIES - Bones; fractures of acon. ang. **Arn.** asaf. asar. bell-p-sp. bell-p. bry. **Calc-f.** calc-p. calc. **Calen.** **CARB-AC.** con. cortico. cortiso. croc. dulc. **Eup-per.** ferr. hecla hep. **HYPER.** iod.

kali-i. led. lyc. nit-ac. Petr. Ph-ac. phos. Puls. ran-b. rhus-t. rob. RUTA Sil. SPIG. staph. stront-c. Sul-ac. sulph. Symph. valer. vanil.

GENERALS - SOFTENING bones am-c. ASAF. aur. bar-c. Bell. bufo calc-f. Calc-i. calc-p. CALC. caust. cic. con. Ferr-i. ferr-m. Ferr-p. ferr. guaj. hecla Hep. iod. ip. Kali-i. Lac-c. Lyc. mag-f. mag-p. MERC. mez. Nit-ac. nux-m. Ol-j. parathy. petr. ph-ac. Phos. plb. Psor. Puls. rhod. ruta Sep. SIL. staph. Sulph. syph. ther. thuj.

HEAD - ATROPHY - Brain; of Aur. Bar-c. fl-ac. iod. Phos. Plb. zinc.

HEAD - BONES; complaints of acon. agn. am-c. ang. ant-c. arg-met. ars. asaf. AUR. bar-c. Bell. bry. calc-f. calc-p. Calc. canth. carb-v. caust. cham. Chin. cinnb. cocc. cupr. daph. fl-ac. graph. guaj. Hep. ign. ip. kali-bi. kali-i. kali-n. kali-p. Lyc. Mang. MERC. Mez. nat-m. NIT-AC. nux-v. Ph-ac. Phos. puls. rhod. rhus-t. RUTA sabad. sabin. samb. Sep. Sil. spig. Staph. Sulph. verat. viol-t. zinc.

HEAD - INJURIES of the head; after - children; in - delivery; from carc. nat-s.

HEAD - INJURIES of the head; after - Scalp calen.

HEAD - INJURIES of the head; after am-pic. anac. apis ARN. bell. Calc. calen. carc. cedr. chin. Cic. Cocc. con. fic-m. Fil. glon. Hell. hep. Hyos. hyper. Kali-p. lach. Led. Lob. mang. meli. meny. merc. Nat-m. NAT-S. Op. petr. ph-ac. puls. Rhus-t. Sil. stram. sul-ac. sulph. symph. Teucr. vanil. verat. zinc.

HEAD - SOFTENING of brain Agar. alco. am-c. ambr. Arg-n. astra-e. aur. bap. bar-c. bell-p. bufo calc-p. CALC. cann-i. Caust. con. crot-h. fl-ac. Glon. kali-br. kali-i. kali-p. kreos. lach. lyc. nux-m. nux-v. PHOS. pic-ac. plb-xyz. plb. salam. sil. Stry. sulph. syph. THUJ. vanad. Zinc-p. Zinc.

HEAD - TUMORS - Bones AUR. calc-p. Daph. merc. Phos. sars. Sil.

HEAD - TUMORS - Brain - accompanied by - tension in head ap-d. apis apom. hed. hell.

HEAD - TUMORS - Brain aeth. apom. arn. aur-i. Bar-c. bell. calc. cham. Con. glon. graph. hydr. Kali-i. PLB-I. Plb. sep. staph. sulph. Thuj. zinc-s.

HEAD - TUMORS - perforating the skull lach.

NOSE - CORYZA - accompanied by - smell; loss of am-m. ant-t. arn. ARS. bov. Bry. calc. carb-an. cina cocc. Cycl. graph. hell. IP. kali-c. kali-n. mag-m. mang. med. mez. Nat-m. Nux-v. PULS. rhod. sabad. spig. squil. staph. sul-ac. sulph.

NOSE - DISCHARGE - coryza; without agar. ter.

NOSE - DISCHARGE - dripping acon. agar. Agath-a. All-c. am-c. ars-i. Ars. arum-t. calc. cham. chin. chir-fl. con. eup-per. euph. euphr. graph. Hep. kali-bi. kali-i. lavand-a. lyc. mag-c. mag-m. merc-c. merc. nat-m. nit-ac. nux-v. petr-ra. phos. pin-con. psor. rhod. Rhus-t. sabad. sang. sep. sil. squil. Sulph. tab. vanil.

NOSE - DISCHARGE - salty - Posterior nares kali-i.

NOSE - DISCHARGE - salty ambr. aral. cimic. germ-met. kali-i. nat-m. tell.

NOSE - DISCHARGE - watery - eating; while plb. sulph. Trom.

NOSE - DISCHARGE - watery - left am-br. androc. anth. chlor. lach. olib-sac. ozone spong.

NOSE - DISCHARGE - watery - right - daytime calc-s.

NOSE - DISCHARGE - watery - right alum. calc-s. Kali-bi. melal-alt. nit-ac. olib-sac. petr-ra. pitu-gl. podo. sol-ni. tax. ven-m.

NOSE - DISCHARGE - watery abrom-a. abrot. acon-ac. Acon. aesc. Agar. ail. ALL-C. aloe alum-sil. alum. am-br. am-c. am-caust. am-m. ambr. Ambro. anag. androc. ant-c. ant-t. anth. antip. ap-g. aphis apis aq-mar. Aral. arg-met. arg-n. arist-cl. Ars-i. ARS. ARUM-T. arund. asar. aur-ar. Aur-m. bad. bamb-a. bell-p-sp. bell-p. bell. berb. beryl. botul. bov. Brom. Bry. bufo cain. calc-i. calc-m. calc-p.

calc-s. calc-sil. **Calc.** carb-an. **Carb-v.** carbn-s. carc. cassia-s. castm. cedr. cench. **CHAM.** chel. **Chin.** chinin-ar. chlor. cinnb. clem. cob-n. cob. coc-c. coca coff. colch. coloc. con. cortiso. crot-h. crot-t. cub. cupr-ar. cupr. **Cycl.** cypra-eg. daph. dios. diphtox. dros. **Dulc.** elaps eucal. eup-pur. euph. **EUPHR.** fago. ferr-ar. **Ferr-i.** ferr. **Fl-ac.** flor-p. gels. glyc. granit-m. **GRAPH.** guaj. ham. hep. **Hydr.** **Hydrog.** ign. ignis-alc. ind. **IOD.** irid-met. **Kali-bi.** kali-br. **Kali-i.** kali-n. **Kali-p.** kali-s. kola kreos. lac-c. lac-h. lach. lil-t. limest-b. luna lyc. lyss. m-arct. mag-c. mag-m. mag-s. mang-p. marb-w. med. melal-alt. meny. merc-c. **MERC.** merl. mez. mim-p. moni. mur-ac. **Naja** naphtin. **NAT-AR.** nat-c. **Nat-m.** nat-n. nat-s. nat-sil. **NIT-AC.** **NUX-V.** olib-sac. oncor-t. oscilloc. osm. ox-ac. pall. par. petr-ra. petr. phos. **Phyt.** pitu-a. **PLAN.** plb. podo. propl. puls. ran-s. rhus-t. ribo. rumx. **Sabad.** sacch-a. **Sang.** **Sangin-n.** **Seneg.** sep. **Sil.** sin-n. spig. spira. spong. squil. stann. **Staph.** stront-c. sul-ac. **Sulph.** symph. tab. **TELL.** ter. teucr. thres-a. thuj. trif-p. tritic-vg. tub-a. tub-d. vanil. ven-m. verb. wies. yuc. zinc. zing.

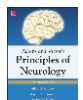
NOSE - SMELL - wanting - injuries; after - head; of thala.

NOSE - SMELL - wanting ail. alum-p. alum-sil. **Alum.** **Am-m.** amyg-p. **Anac.** **Ant-c.** ant-s-aur. **Ant-t.** apoc-a. arg-n. **Ars-i.** ars-s-f. **Ars.** arund. asaf. aspar. aur-ar. aur-i. aur-s. **Aur.** **BELL.** **Bry.** bufo calc-i. **CALC-S.** calc-sil. **CALC.** camph. **Caps.** carb-an. **Carbn-s.** card-m. **Caust.** **Cham.** chel. chlor. cocc. cod. con. **Cupr.** cycl. dulc. **Elaps Graph.** **HEP.** **Hyos.** **Ign.** **Iod.** **Ip.** just. **Kali-bi.** **Kali-c.** **Kali-i.** kali-n. kali-p. **Kali-s.** kali-sil. lach. laur. lem-m. **Lyc.** m-ambo. m-arct. **Mag-m.** mag-p. mang. med. **MERC.** **Mez.** morg-p. **Nat-ar.** **Nat-c.** **NAT-M.** nit-ac. **Nux-m.** **Nux-v.** olnd. **Op.** phel. **PHOS.** **PLB.** positr. **Psor.** **PULS.** rhod. **Rhus-t.** ruta **Sang.** **Sarr.** sec. **SEP.** **SIL.** spig. stram. **Sul-ac.** sul-i. **Sulph.** syc. **Syph.** **Teucr.** tub-a. verat. zinc-m. **Zinc.**

Bibliography



Chapter 12. Nasal Trauma > Epistaxis and CSF Leak **CURRENT** Diagnosis & Treatment in Otolaryngology—Head & Neck Surgery, 3e ... The initial edema and epistaxis of nasal trauma usually resolve without intervention; however, persistent epistaxis may require tamponade with nasal packing or, rarely, identification and coagulation or ligation of the bleeding vessel. With CSF leak, the injury is significantly more severe and may...



Chapter 35. Craniocerebral Trauma > Pneumocephalus, Aerocele, and Rhinorrhea (Cerebrospinal Fluid Leak) Adams & Victor's Principles of Neurology, 10e ... and the underlying meninges are torn, or if the fracture passes through the inner wall of a paranasal sinus, bacteria may enter the cranial cavity, with resulting meningitis or abscess formation. CSF that leaks into the sinus presents as a watery discharge from the nose (CSF rhinorrhea). The nasal discharge can...



Chapter 64. Common Complications in Neurosurgery > CSF Leak (CSF Fistula) Principles and Practice of Hospital Medicine ... Trauma and surgery represent more than 70% of causes of CSF leak. In the majority of postoperative cases, CSF leak occurs immediately with an incidence of 8% in cranial base operations and may manifest months after the surgery. A CSF fistula is clinically manifested as otorrhea or rhinorrhea...



Chapter 66. Neurotologic Skull Base Surgery > Cerebrospinal Fluid Rhinorrhea & Otorrhea **CURRENT** Diagnosis & Treatment in Otolaryngology—Head & Neck Surgery, 3e ... in common use to discourage CSF leak include packing the craniotomy defect with adipose tissue and sealing transected cell tracts with bone wax or other obliterative material. Despite diligent efforts at preventing this complication, CSF rhinorrhea occurs in about 10% of CPA surgeries, regardless...



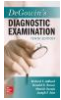
Encyclopedia Homoeopathica



Meningitis in Infants and Children > THE CHILD WITH CSF LEAK Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 8e ... Children with CSF rhinorrhea or otorrhea are most likely to develop meningitis from *S. pneumoniae*. The signs and symptoms of meningitis tend to be milder in this group than in children with pneumococcal meningitis from bacteremia. Therefore, this is a situation in which meningitis is still...



Radar 10



The Head and Neck > Cerebrospinal rhinorrhea DeGowin's Diagnostic Examination, 10e ... fluid is suspected, the specimen should be tested for b 2 -transferrin. There is substantial risk for meningitis; recurrent meningitis should lead to a search for CSF leak. ...