Intracranial Calcification

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Hyperostoses (of skull) – see [p. Onc40 >>](HTTP://WWW.NEUROSURGERYRESIDENT.NET/Onc.%20Oncology/Onc40.%20Skull%20Tumors.pdf)

**Noncontrast CT** is initial study of choice!

I. Normal (physiologic) calcifications:

1. **Pineal gland** (and immediately adjacent **habenular commissure**) - 60% adults.

* rare in individuals < 6 yrs.
* if greatest diameter > 1 cm – consider abnormality (pineocytoma, AVM).

1. **Choroid plexus** - almost all adults (at least 10% adults).

* frequently present in children.
* most frequently at glomera (in atria of lateral ventricles).
* choroid plexus of 4th ventricle extends through lateral foramina of Luschka - may be seen as calcified or enhancing "mass" in cerebellopontine angle.

1. **Dura** - plaquelike areas of *calcification*.

* most frequently in ***falx*** and ***along both free*** (particularly prone to dense calcification!) and ***attached edges of tentorium***.
* seen as dural plaques (frequently parasagittal):



* heavy calcification of falx (less frequently of tentorium) may be component of *basal cell nevus syndrome*.

1. **Pacchionian bodies**
2. **Basal ganglia** (more prominent with advancing age; also in hypothyroidism and pseudohypothyroidism).
3. Dentate nucleus
4. Pituitary gland (rare)
5. Carotid arteries (in elderly)

II. Abnormal calcifications:

1. **Hematomas** (subdural, epidural, intracerebral)
2. **Vascular lesions** (arteriosclerosis, aneurysms, AVMs, capillary and venous angiomas)
3. **Neoplasms** (oligodendroglioma, ependymoma, choroid plexus papilloma, craniopharyngioma, retinoblastoma, teratoma, dermoid, epidermoid, meningioma, lipoma, pituitary adenoma, chondrosarcoma, metastases of primary osseous tumors)
4. **Parasites** & **Infections** (cysticercosis, trichinosis, echinococcosis, toxoplasmosis, tbc, cytomegalic inclusion disease, old abscesses, nontuberculous granulomas, torulosis)
5. **Neurocutaneous disorders** (tuberous sclerosis,Sturge-Weber, neurofibromatosis)
6. Congenital atrophy or hypoplasia (**lissencephaly**)
7. **Symmetric calcification of basal ganglia** (hypoparathyroidism, pseudohypoparathyroidism)
8. **Hypervitaminosis D**, idiopathic hypercalcemia
9. **Lead poisoning**
10. **Fahr's disease**
11. **Cockayne's disease** (progeria)

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