

Intracranial Calcification

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Hyperostoses (of skull) – see p. Onc40 >>

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).
2. **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.
3. **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*.
4. **Pacchionian bodies**
 5. **Basal ganglia** (more prominent with advancing age; also in hypothyroidism and pseudohypothyroidism).
 6. **Dentate nucleus**
 7. **Pituitary gland** (rare)
 8. **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)