Idiopathic Downbeat Nystagmus (DBN)

No nystagmus in primary gaze
Large amplitude slow DBN on gaze right and left
Full upgaze, no nystagmus
Full downgaze with small amplitude DBN
Normal Convergence accentuating DBN
Downbeat Nystagmus

Smooth horizontal and upgaze pursuit
Saccadic pursuit on downgaze
Absent OKN stripes down
Normal OKN stripes up
Eye Movement Chiari-I Malformation

Downbeat nystagmus (occasionally with a torsional component), worse on lateral gaze and with convergence
Divergence nystagmus
Convergence nystagmus
Chiari-I Malformation

Horizontal nystagmus (unidirectional, present with eyes in central position)
Periodic alternating nystagmus
Gaze-evoked nystagmus
Rebound nystagmus including torsional rebound
Chiari-I Malformation

Seesaw nystagmus
Impaired pursuit (and VOR cancellation)
Impaired OKN
Strabismus, esotropia
Divergence paralysis
Skew deviation accentuated or alternating on lateral gaze
Clinical Features DBN

Best evoked on looking down and laterally; often in association with horizontal gaze-evoked nystagmus, and so may appear oblique on lateral gaze.

Slow phases may have linear-, increasing- or decreasing-velocity waveforms

Poorly suppressed by fixation of a visual target
Clinical Features DBN

May be precipitated or exacerbated or changed in direction, by altering head position, vigorous head-shaking (horizontal or vertical), or hyperventilation.

Convergence may increase, suppress or convert to upbeat nystagmus.

Associated with other signs of vestibulocerebellar involvement.
Etiology of Downbeat Nystagmus

Cerebellar degeneration
Craniocervical anomalies, including Arnold-Chiari malformation
Infarction of brainstem or cerebellum
Rotational vertebral artery syndrome
Dolichoectasia of the vertebrobasilar artery or compression of the vertebral artery
Multiplesclerosis
Etiology of Downbeat Nystagmus

Cerebellar tumor, including hemangioblastoma
Encephalitis
Head trauma
Increased intracranial pressure and hydrocephalus
Etiology of Downbeat Nystagmus

Toxic-metabolic

Anticonvulsant medication
Lithium intoxication
Alcohol intoxication and induced cerebellar degeneration
Acknowledgement
