

	Traumatic Brain Injury	Trisomy 13 (Patau Syndrome)
Description	Trauma to the brain resulting in severe, diffuse brain damage	A syndrome associated with the presence of an extra chromosome number 13.
Etiology	<ul style="list-style-type: none"> • Falls • Recreation-related injuries • Motor vehicle accidents • Abuse 	
Incidence	62,000 children per year sustain brain injuries requiring hospitalization, and 564,000 children are seen in a hospital emergency room and released	Between 1 in 3000 and 1 in 8000, with a 3:1 Female to Male predominance
Signs/ Symptoms	<ul style="list-style-type: none"> • Motor <ul style="list-style-type: none"> ○ Spasticity ○ Ataxia ○ Apraxia ○ Tremor ○ Impaired posture • Communication <ul style="list-style-type: none"> ○ Aphasia ○ Dysarthria ○ Auditory-perceptual difficulties • Cognition <ul style="list-style-type: none"> ○ Poor attention span ○ Difficulty learning ○ Delayed information processing ○ Poor judgement ○ Poor problem solving ○ Poor reasoning ○ Poor organizational skills ○ Impaired executive functions • Sensory <ul style="list-style-type: none"> ○ Vision impairments ○ Hearing impariments • Behavior <ul style="list-style-type: none"> ○ Impulsivity ○ Distractibility ○ Low frustration tolerance ○ Emotional lability ○ Aggression 	<ul style="list-style-type: none"> • Mental retardation • Seizures • Microcephaly • Cleft lip and palate • Low set ears • Extra digits • Hernias • Hypotonia • Micrognathia • Skeletal agnormalities • Congenital heart defects • Apnea • Deafness • Eyes close set • Iris defects • About ½ of the affected infants do not survive beyond the first month and about ¾ die within 6 months
Swallowing Manifestations	<ul style="list-style-type: none"> • Oral aversion • Altered occlusion • Food refusal • Tongue thrust • Tongue retraction • Lip retraction • Tactile hyper- or hypo-sensitivity • Oral aversion • Hyper- or hypo- tonicity of oral/pharyngeal/laryngeal musculature • Primitive reflexes • Anterior loss of food from oral cavity • Impaired initiation of suck • Impaired oral bolus formation/control/transit • Impaired suck/swallow/breathe synchrony • Decreased pharyngeal peristalsis • Fatiguing during feeding/decreased endurance • Airway compromise <ul style="list-style-type: none"> ○ Decreased efficiency and timeliness of laryngeal movement ○ Hypertonicity supra- and infra- hyoid muscles ○ Coughing ○ Choking ○ Throat clearing ○ Aspiration/penetration 	<ul style="list-style-type: none"> • Impaired postural control <ul style="list-style-type: none"> ○ Impaired head neck control ○ Impaired jaw stability ○ Impaired sitting balance ○ Use of postural changes to assist with swallowing • Drooling • Respiratory distress during oral feeding <ul style="list-style-type: none"> ○ Hypoxia during swallow ○ Upper respiratory infections (URI)/pneumonia ○ Increased respiratory load ○ Impaired esophageal motility