Hydrocephalus

Internal hydrocephalus is due to cerebral spinal fluid (CSF) overproduction or outflow obstruction resulting in accumulation of CSF within the ventricles of the brain. This accumulation of fluid results in increased CSF pressure, severe compression of brain tissue and neuronal damage.

This condition becomes clinically apparent at the time of weaning, as this is the period of cranial suture closure. Mice will present with a domed head appearance and may be developmentally delayed (small stature) compared with their littermates. Hydrocephalic mice may be unable to eat and drink, and typically present as weak, malnourished and dehydrated.

This condition is overrepresented in C57BL/6 mice and related strains. Given the hereditary basis of hydrocephalus, it is strongly recommended that animals with this condition not be bred and culled from the colony when possible.

This condition has also been recently associated with high levels of Cre recombinase expression in neuronal precursor cells which results in ependymal lining defects.