Chronic Traumatic Encephalopathy (CTE)

Progressive degenerative disease of the brain found mostly in athletes and veterans with a history of repetitive brain trauma.

Can cause memory loss, confusion, impaired judgment, lack of impulse control, aggression, depression, and progressive dementia.

From DeKosky, S. T. et al.

4 Stages of Symptoms

From McKee et al.

**Symptoms**
1. No Symptoms
2. Rage, impulsivity, and depression
3. Confusion, memory loss
4. Advanced dementia

**Proteinopathy**
1. Tau forms around blood vessel. Kills nerve cells.
2. Defective tau affects frontal lobes
3. Tau affects temporal section of brain
4. Tau kills and shrinks nerve cells roughly half the size.

Left: Normal
Middle: Mild Tau Deposition
Right: Severe Tau Deposition
From Boston University, CTE Center
Treatment & Prevention

• Treatment and diagnosis are areas of research for CTE.
• Currently available methods are:
  – Medicines (ex. Antidepressant, mood stabilizer)
  – Therapy
  – Healthy Lifestyle
• For prevention, doctors recommend
  – Avoiding dangerous play
  – Wearing proper protective equipment
  – Taking sufficient break after suffering concussion

References

• [http://www.bu.edu/cte/](http://www.bu.edu/cte/) Boston University Center for Traumatic Brain Injury