

1989

1988-1990

Caspar popularized the anterior cervical [Caspar plate](#) system in 1989 ¹⁾.

The classification of [Diffuse axonal injury](#) was first proposed by Adams in 1989 ²⁾ and divides diffuse axonal injury (DAI) into three grades:

grade I : involves grey-white matter interfaces most commonly : parasagittal regions of frontal lobes, periventricular temporal lobes less commonly : parietal and occipital lobes, internal and external capsules, and cerebellum often inapparent on conventional imaging may have changes on MRS 3

grade II : involves corpus callosum in addition to stage I locations observed in approximately 20% of patients most commonly : posterior body and splenium but does advance anteriorly with increasing severity of injury most frequently unilateral may be seen on SWI 3

grade III : involves brainstem in addition to stage I and II locations most commonly : rostral midbrain, superior cerebellar peduncles, medial lemnisci and corticospinal tracts.

When [Brainlab](#) first introduced neurosurgery [software](#) in 1989, a [neurosurgeon](#) who needed software was viewed as not a good neurosurgeon. Today, a neurosurgeon who does certain [procedures](#) without the proper software is viewed as not a good neurosurgeon.

Founded in 1989 [Integra](#) is headquartered in Plainsboro, New Jersey and has over 3,300 employees worldwide.

The initial ProDisc-L [artificial disc](#) was developed by Thierry Marnay ³⁾ in 1989, and was used clinically in the early 1990s. Subsequently, the second generation, ProDisc II was developed in 1999 with cobalt chrome endplates and constrained polyethylene core and approved for commercial use in Europe the same year.

Dr Pernkopf's Topographische anatomie des menschen (Topographical anatomy of man), in four volumes, was originally published in German. It had taken the author and his colleagues over twenty years to produce it, the first volume being published in 1937. It was translated into English in 1964. The [Pernkopf's atlas](#) was received with uniform acclaim in Europe and America and praised for its accuracy and the quality of its illustrations. A study compared its utility with that of Dr Frank Netter's [Atlas of human anatomy](#), first published in 1989, with its 7th edition out in 2018.

¹⁾

Caspar W, Barbier DD, Klara PM. [Anterior cervical fusion](#) and [Caspar plate](#) stabilization for cervical trauma. Neurosurgery. 1989;25:491-502.

²⁾

Adams JH, Doyle D, Ford I et-al. Diffuse axonal injury in head injury: definition, diagnosis and grading. Histopathology. 1989;15 (1): 49-59.

³⁾

Marnay T. ProDisc. The 7-11 Year Clinical Experience. New York, NY: Spine Solutions, Inc; 2000

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