

PERİFERAL SİNİR YARALANMALARI

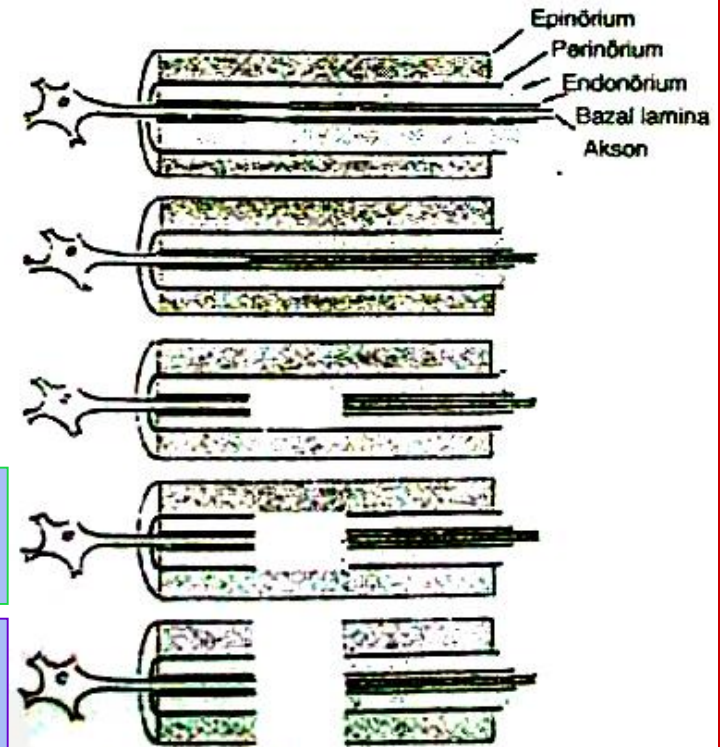
Nöropraksi

Aksonetmezis

Sunderlandin 3.
derece Nöretmezis

Sunderlandin 4.
derece Nöretmezis

Sunderlandin 5.
derece Nöretmezis



SİNİRLERDE DEJENERASYON VE REJENERASYON

Sinir hücreleri yıkımlandıkları zaman yerine yenileri yapılamaz

Aksonal bütünlük bozulduğunda rejenere olabilir.

Sinir trunkusunun bütünlüğü bozulduğunda iki temel olgu vardır:

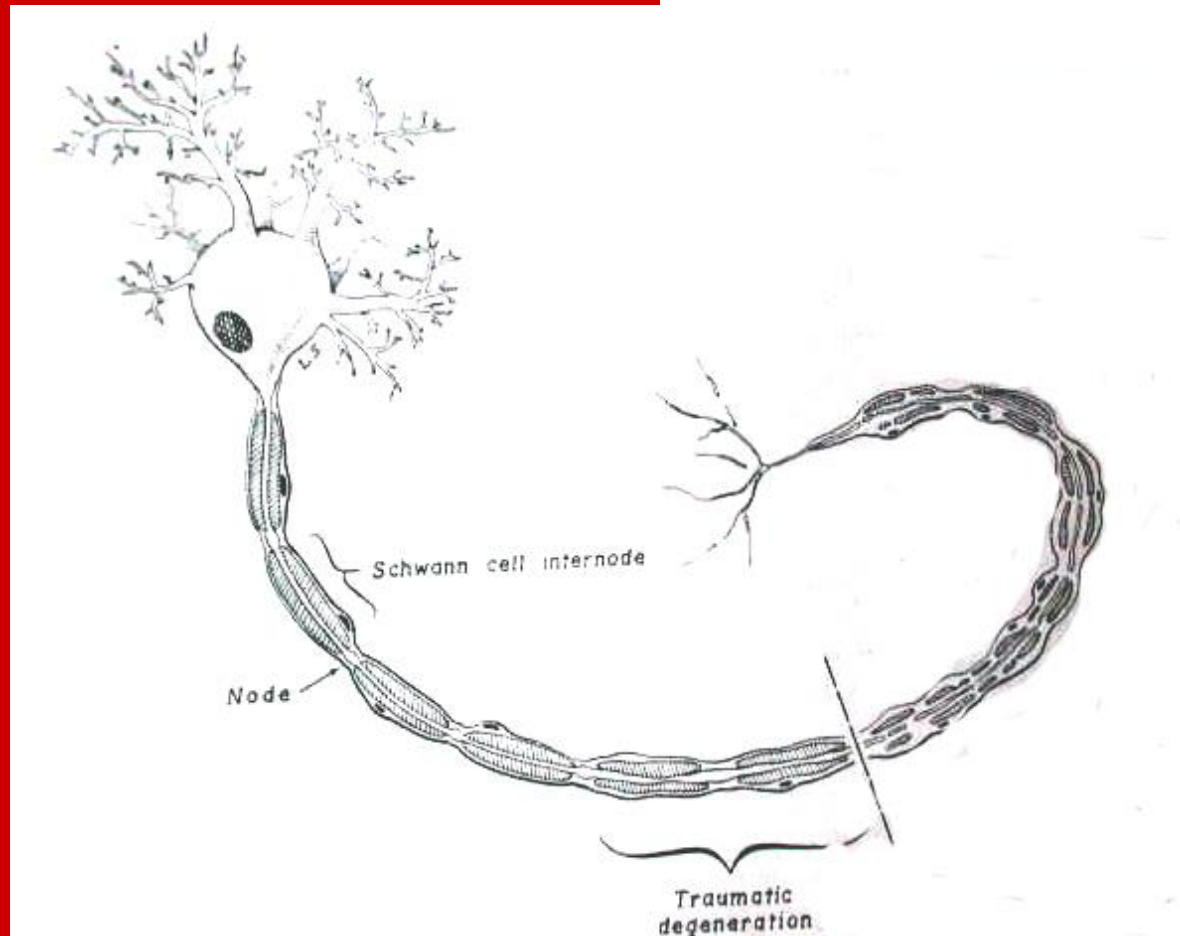
1. Hem proksimal hem de distal uç rejenrasyona katkıda bulunur
2. Proksimal uçtan başlayan aksonal filizlenme distal uca ulaşarak efektor organa ulaşmaya çalışır.

Yaralanmanın 3 veya 4. günlerinde; endonörium, perinörium ile epineuriumdan köken alan fibroblastlarda ve kollagen liflerde artış olur.

Ayrılan iki uç arasında fibrin, fibroblast ve schwan hücreleri yer alır.

Wallerian dejenerasyonu – sekonder dejenerasyon

Retrograd dejenerasyon – Primer dejenerasyon



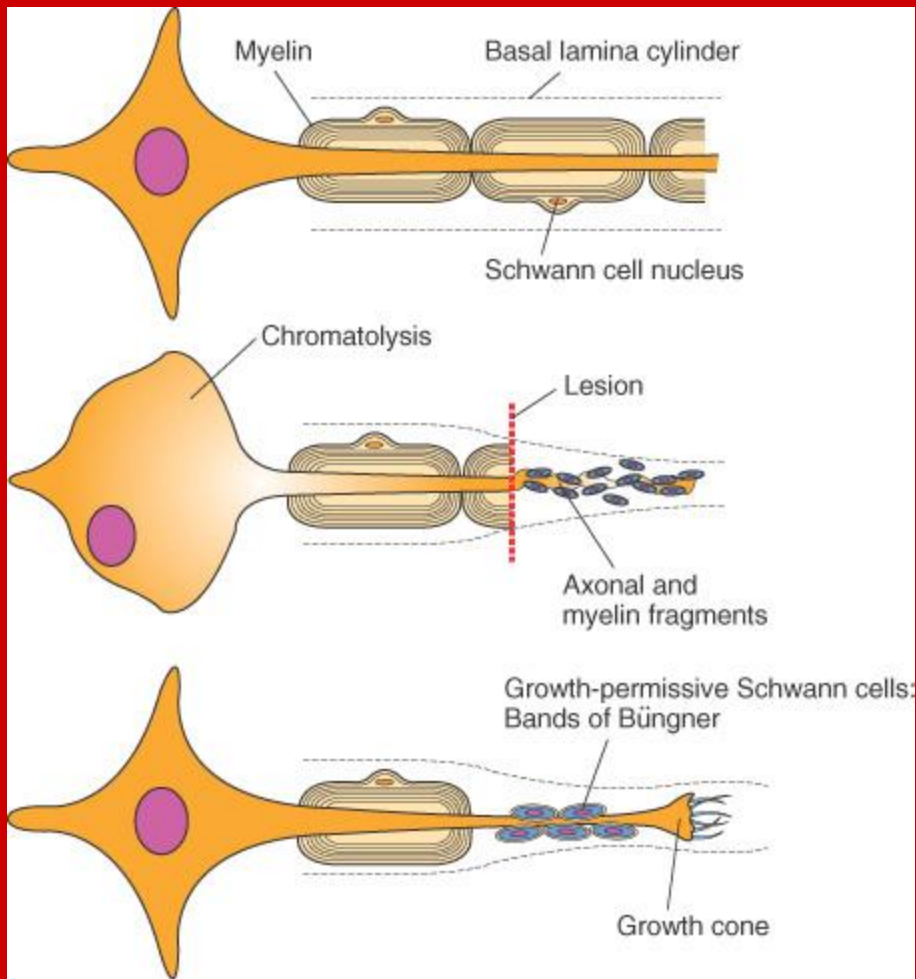
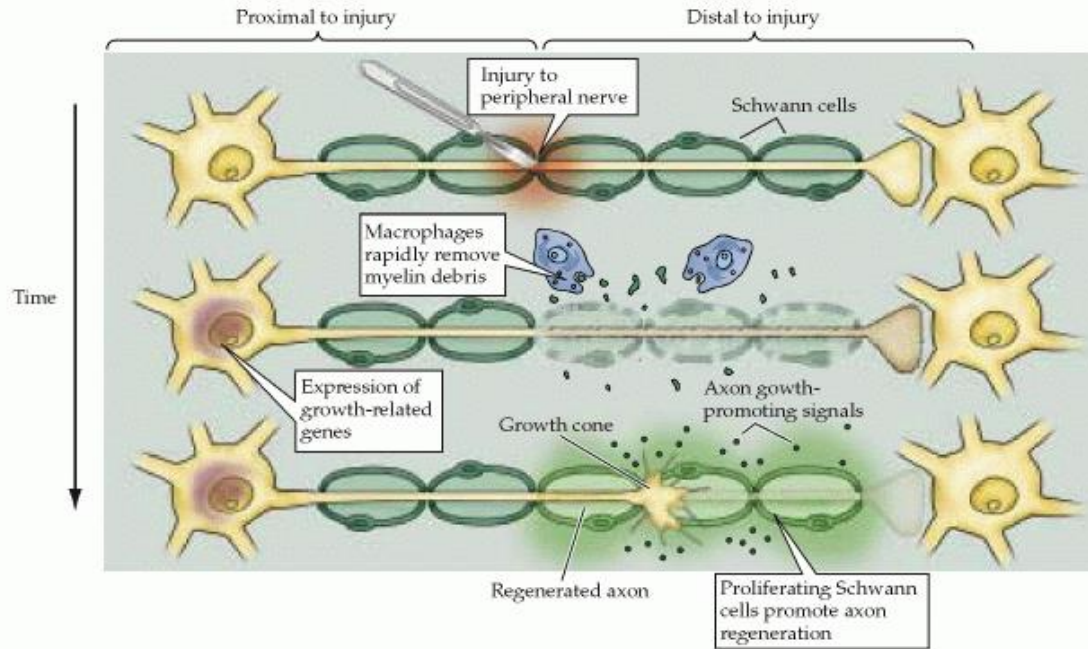


FIGURE 30-2 Wallerian degeneration in the PNS. After an axon is injured, resulting chromatolysis, i.e. stress reaction and increased protein synthesis, occurs in the neuronal cell body, with axonal and myelin degeneration distal to the injury. Growth-permissive Schwann cells secrete growth factors that stimulate axons to regenerate.

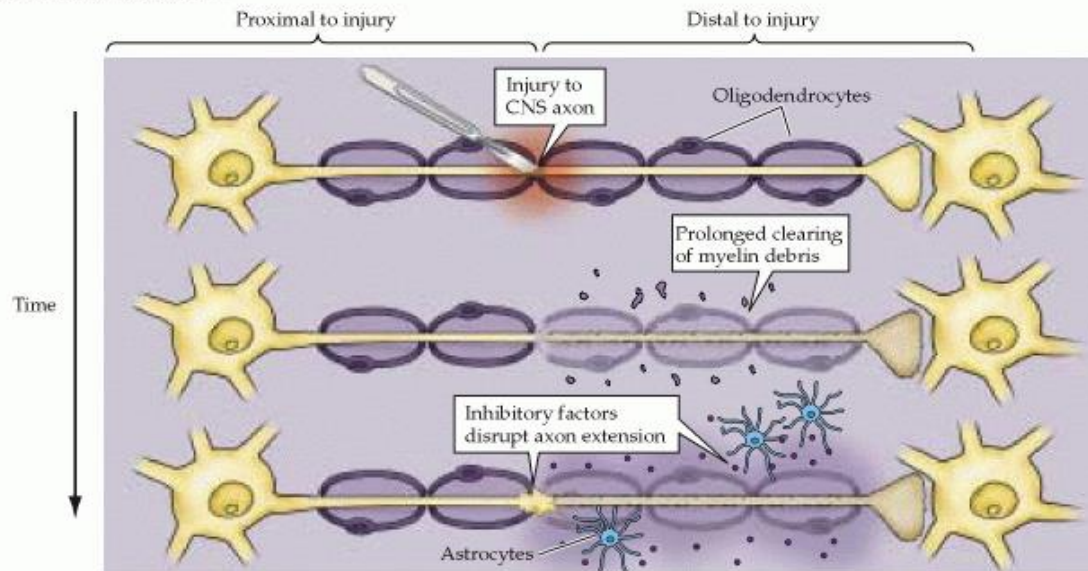
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(A) Peripheral nervous system



(B) Central nervous system



Sentral Kromatolizis (Kromatin parçalanması)



Nissl granulleri kaybolur



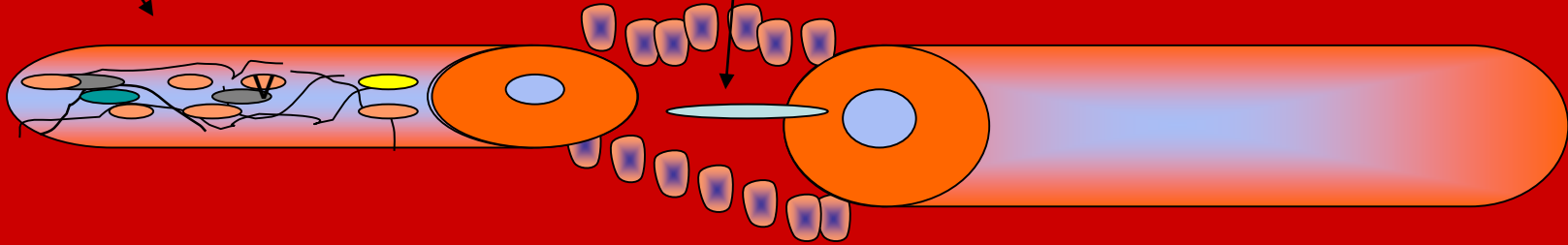
Strukturel proteinlerin üretimi, RNA üretimi (nörotubul ve nöroflamentlerdeki tubulin artar, nörotransmitter üretimi azalır)

Nöretmezis 3. satten sonra nörotrofik aktivitede artış olur 7. güne kadar devam eder. İlk 24 saatin sonunda kesilen uçta tomurcuklanma oluşur .

İlk 3 gün faradik akıma yanıt alınabilir

Aksonal tomurcuk

**Bağdoku hücreleri
Makrofaj, schwan,
debridasyon ürünleri**



Büngner Bantı

Aksonal tomurcuk distal tüpün içerisine girdikten sonra günde 1 – 8 mm ilerler
Sensorik iyileşme daha geç olur

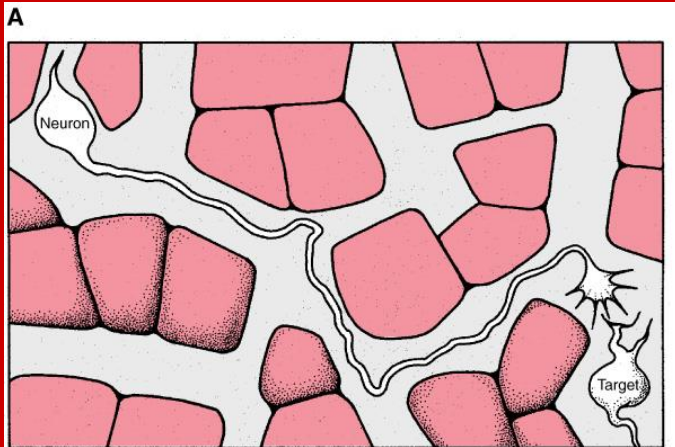
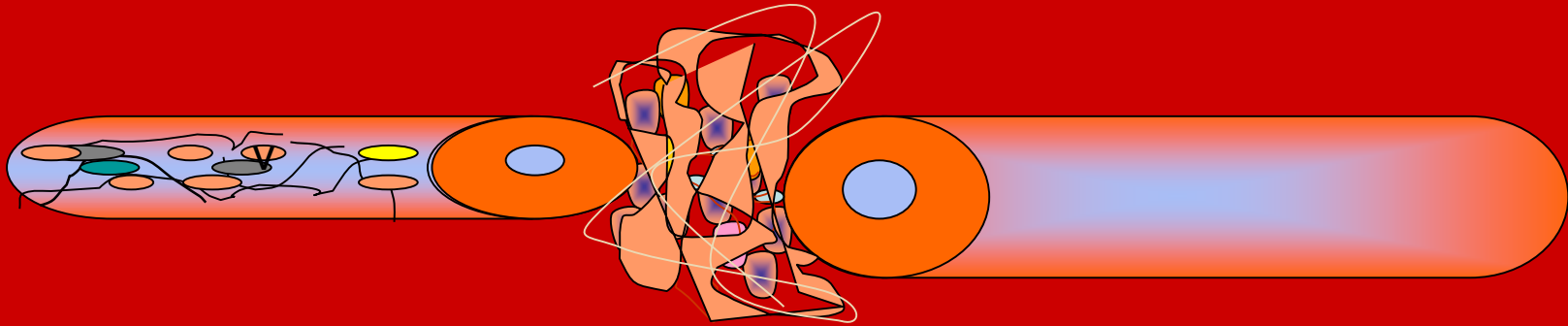


FIGURE 5.4A An axon growing to its target (A) is like a driver navigating through city streets (B). See text for details.

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Nöroma

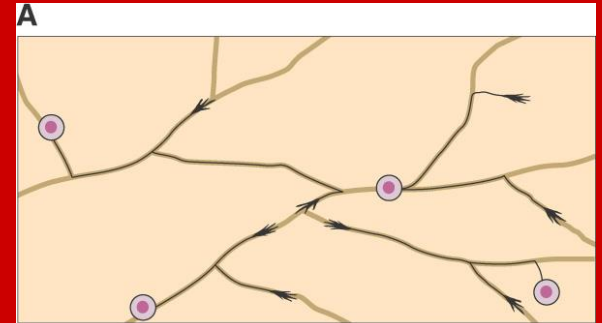


FIGURE 5.16A Axons may follow mechanical pathways. A. The axons of neurons on a dried collagen matrix growing through the cracks. B. Axons of the corpus callosum can use an artificial sling to grow from one side of the brain to the other.

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A. Axonal Plasticity

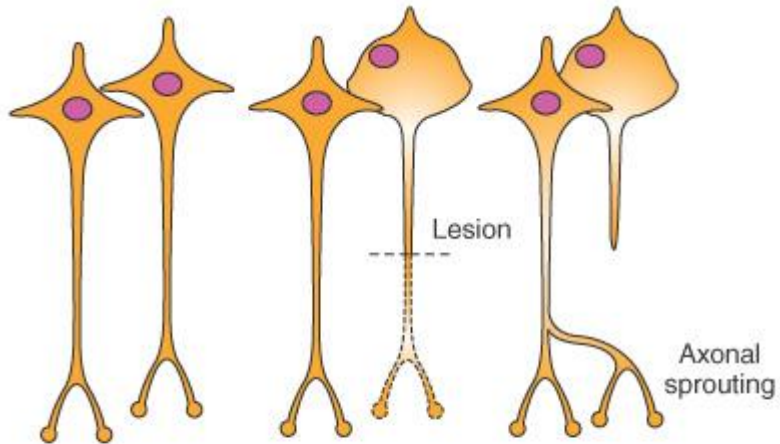


FIGURE 30-1A Simplified drawing depicting the difference between axonal plasticity (A), where following axonal injury the cut axon does not regrow, but other undamaged neurons grow new axons to reinnervate denervated targets. In axonal regeneration (B), cut axons regrow from the damaged sites and reconnect with denervated targets.

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B. Axonal Regeneration

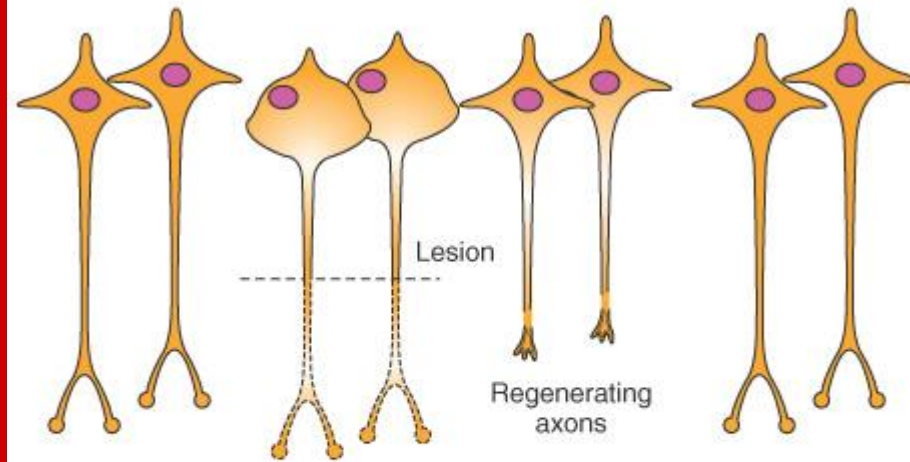


FIGURE 30-1B Simplified drawing depicting the difference between axonal plasticity (A), where following axonal injury the cut axon does not regrow, but other undamaged neurons grow new axons to reinnervate denervated targets. In axonal regeneration (B), cut axons regrow from the damaged sites and reconnect with denervated targets.

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