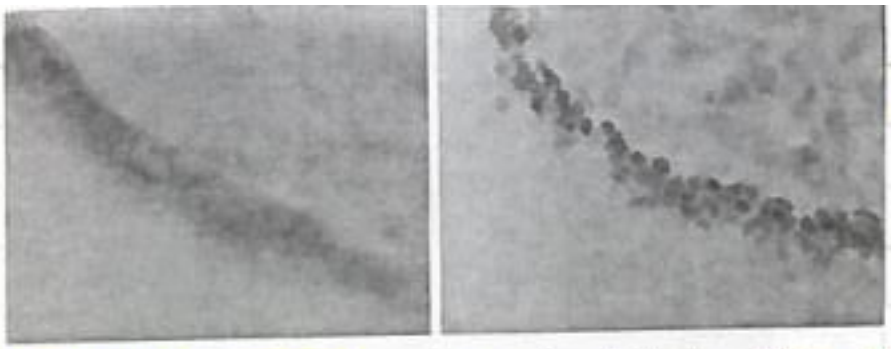

Immediate early genes are the first to be switched on after tissue damage and they activate a cascade of gene transcription

- ~ 30 mins after wound.

translocate transcription factors to nucleus

= front line epithelium starts to close.

Many other genes must be upregulated in order for the epidermis to efficiently migrate across the wound surface

- e.g. proteases switched on, needed for remodelling of ECM.

(chronic wounds = deregulation of proteases and their inhibitors)

- Also genes switched on to protect cells against free-radicals fired by neutrophils.

Need caution with gene switches: if cells migrate and proliferate away from basement membrane = cancer.

- Some wound genes need to be epigenetically 'unsilenced'
  - ↳ unsilence promoter regions, at wound edge, of genes normally silent as cancer genes.