

- Involves transplanting of organs or tissues from a genetically non-identical individual
 - o Look for MHC similarities
 - o Could begin rejection after 5-6 years
 - Have to regularly take immunosuppressive drugs to slow down rejection.

Xenograft

- Involves transplanting organs or tissues from one species to another
 - o Transgenic pigs
 - Genetically manipulated to produce exact MHC proteins required.

Pregnancy

- Foetus is an allograft – a piece of foreign material in the body.
 - o The body produces general immunosuppression.
 - More likely to catch an infection.

Implantation and movement of foetal cells into the mother's blood

- Implantation is a traumatic event
- As the cells of the trophoblast (forms placenta) invade the endometrium, some break off and enter the mother's blood.
- These foetal cells are still found living within the mother's body decades after delivery.
- A large number of these foetal cells migrate to the liver and the thymic gland.
- Those in the thymic gland are utilized in thymic education where the cells of the mother's immune system learn to recognise and ignore the MHC proteins on the foetal cells.
- The foetal cells that remain in the mother's body after delivery are stem cells, and are capable of differentiating into any cell type.
 - o From this, there is emerging evidence that these foetal-derived stem cells play a role in repairing damage to the mother's body.

Babies are often miscarried when they have some physical abnormality. This is known as 'quality screening'.

'Little soldier hypothesis' ???

Membrane extensions

Non-motile extensions

- Microvilli
 - o Finger like projections
 - o They increase the surface area of the cell
 - o Found in the gut and kidneys – anywhere where absorption takes place.

Motile extensions

- Ciliated epithelium (cilia)
 - o They line the airway
 - o Also found alongside goblet cells (which produce mucus)
 - 1-2 pints of mucus cleared from lungs each day
 - Freshly produced mucus
 - Clear – runny, sticky.
 - Green – dust, bacteria and viruses.