<u>Dialysis</u>

- can be used to treat kidney failure
- restores the concentration of dissolved substances in the blood to normal levels
- + can keep a patient alive whilst looking for a suitable donor
- + does not involve major surgery
- Patients need to follow a carefully controlled diet.
- Patients need to spend many hours a week attached to a dialysis machine.
- very expensive
- will only be successful for a certain amount of time

How a dialysis machine works



- Dialysis fluid must contain the same concentration of glucose and salts as blood plasma.
- The counter-current system ensures that a diffusion gradient for urea is always maintained.

<u>Transplant</u>

- A diseased kidney may be replaced by a healthy one by transplant from a donor of a similar 'tissue type' to the recipient.
- The donor kidney may be rejected by the body and attacked by the immune system, unless drugs are taken which suppress the immune response.
- Close family members are more likely to have similar tissue types to the recipient.
- + Patients no longer have diet restrictions.
- + Long periods of time on dialysis are no longer necessary.
- There is a risk of organ rejection.
- Patients need to take drugs which suppress the immune system, leaving them susceptible to contracting other diseases.
- Patients need to make regular doctors' appointments to detect signs of organ rejection.
- requires major surgery