

# WJEC Wales Biology GCSE

## 2.6 (h) to (j) - Treating Kidney Failure

### Flashcards

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# How can kidney disease be detected?



# How can kidney disease be detected?

Detected by the presence of cells or blood in a person's urine



# How can kidney failure be treated? (2)



## How can kidney failure be treated? (2)

- Kidney dialysis
- Kidney transplant



# What is kidney dialysis?



# What is kidney dialysis?

A machine artificially filters a patient's blood



# What is the dialysis fluid called?





What is the dialysis fluid called?

Dialysate



# How does kidney dialysis work? (higher)



## How does kidney dialysis work? (higher)

- Selectively permeable barrier separates patient's blood from dialysate
- Materials exchanged across the barrier e.g. urea, excess ions and water move out of the blood and into the dialysis fluid
- Large cells and proteins remain in the blood



Describe the composition of dialysate  
(higher)



## Describe the composition of dialysate (higher)

- Fewer salts and water than the patient's own blood so excess salts and water diffuse out of the blood into the dialysate
- No urea



# Outline the advantages of kidney dialysis (2)



## Outline the advantages of kidney dialysis (2)

- Does not involve surgery
- Patient can undergo kidney dialysis while waiting for a donor kidney



# Outline the disadvantages of kidney dialysis (4)





## Outline the disadvantages of kidney dialysis (4)

- Connected to a dialysis machine for many hours a week
- May have to travel to hospital
- Must control diet (e.g. fluid and salt intake)
- Not a permanent solution



# What does a kidney transplant involve?



# What does a kidney transplant involve?

Taking a kidney from a living donor or someone recently deceased and implanting it into the patient.



What is the risk associated with kidney transplants?



What is the risk associated with kidney transplants?

Risk of the body rejecting the transplanted kidney



# What is meant by kidney 'rejection'?



What is meant by kidney 'rejection'?

The immune system detects the foreign tissue and attacks it



What precautions are taken to minimise the risk of rejection?





# What precautions are taken to minimise the risk of rejection?

- Tissue typing ensures that the transplanted organ is 'compatible' with the recipient
- Immunosuppressant drugs help prevent the immune system from rejecting the organ



# Outline the advantages of a kidney transplant (2)



## Outline the advantages of a kidney transplant (2)

- More permanent solution
- Improves patient's quality of life



# Outline the disadvantages of a kidney transplant (6)



## Outline the disadvantages of a kidney transplant (6)

- Difficult to find a suitable donor
- Involves major surgery
- Transplanted kidney has a limited life-span
- Risk of organ rejection
- May have to take immunosuppressant drugs for life
- Immunosuppressants increase the risk of other infections

