

| | |
|---|---|
| 0 | 1 |
|---|---|

Cystic fibrosis is an inherited disorder that can seriously affect health.

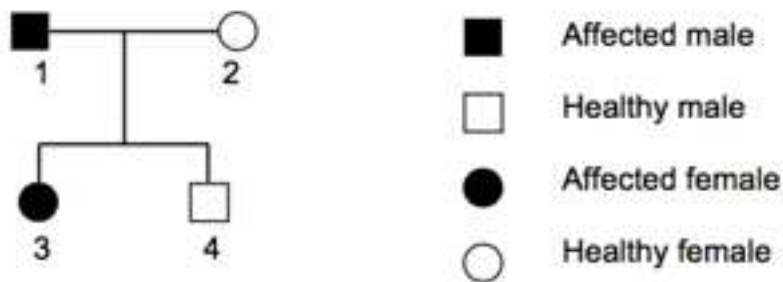
Which **one** of these is affected by cystic fibrosis?

| | | | |
|---|---|---|---|
| 0 | 1 | . | 1 |
|---|---|---|---|

Draw a ring around your answer [1 mark]

blood **cell membranes** **kidneys** **nervous system**

The diagram shows the inheritance of cystic fibrosis in a family. The allele that produces cystic fibrosis is recessive.



| | | | |
|---|---|---|---|
| 0 | 1 | . | 2 |
|---|---|---|---|

Explain why person 3 inherited cystic fibrosis.

[2 marks]

Two recessive/cystic fibrosis/faulty/diseased/the allele(s)/genes [1]
from the parents/from 1 and 2/from both parents [1]

| | | | |
|---|---|---|---|
| 0 | 1 | . | 3 |
|---|---|---|---|

Explain why person 4 did **not** inherit cystic fibrosis

[2 marks]

(inherited) dominant/normal allele/gene [1]
from 2/mother [1]

| | | | |
|---|---|---|---|
| 0 | 1 | . | 4 |
|---|---|---|---|

Couple 1 and 2 know there is a risk that their next baby could have cystic fibrosis.

Embryos can be screened for the allele that causes cystic fibrosis. Many people support the screening of embryos, but others do not.

Suggest one reason why many people support the screening of embryos for the cystic fibrosis allele.

[1 mark]

Reduce number of people with cystic fibrosis (in population) or reduce health-care cost or expensive to have baby with cystic fibrosis or help to prepare financially / emotionally etc

| | | | |
|---|---|---|---|
| 0 | 1 | . | 5 |
|---|---|---|---|

Suggest one reason why many people are against the screening of embryos for the cystic fibrosis allele.

[1 mark]

Possible damage / risk to embryo / fetus / baby or risk to mother screening / it is expensive

(may) have to make ethical / moral / religious decisions

ignore not natural / playing God / unethical / immoral / religious unqualified

right to life

WARNING : Try not to just say 'Playing God, etc.' without explaining what you mean. Remember screening is just to see if the condition is there, not to cure, or change the embryo.