

Thème 1 - La Terre dans l'Univers, la vie, l'évolution du vivant
1-A – Le brassage génétique et sa contribution à la diversité génétique.

Celtic curse¹ in the blood

Question - Use the documents and your scientific knowledge to explain the characteristics of haemochromatosis.

Document 1: As a race, we have a tendency to fair skin and freckles. We are also supposed to possess a charming, friendly nature and a propensity for music and poetry. But our ancient ancestors have also passed on another trait – one that is not quite so welcome.

5 Known as the Celtic Curse, haemochromatosis is a genetic disorder seen mainly in people of Celtic origin which causes those affected by it to absorb excessive amounts of iron into the blood. If left untreated, this may lead to organ damage or even failure.

One in 83 people in Ireland has the condition, which is very prevalent on the west coast of the country. Inishbofin Island off the coast of Galway is one of the areas where an alarming number of cases have been detected and islander Francis O'Halloran has recently been diagnosed with the disorder.

10 "I have always thought of myself as being a fit and strong man. I never had to worry about pushing my boat out or doing any kind of manual work," says the 51 year old. "But about a year ago, I woke up with pains in my chest and a feeling of total exhaustion. I thought I might have had arthritis, so I went to see the doctor. He told me that my condition is the opposite of being anemic, so the treatment involves reducing my iron levels on a regular basis. They do this by removing 600ml of blood from me once a fortnight. This dilutes the iron overload and, in time, the levels can revert to normal although I will always have to have this treatment done. I also have to watch what I eat and drink so I don't consume much iron. It is a little bit of a pain to do², but the alternative is extreme exhaustion in the short term or a complete iron overload, which can result in heart disease and organ damage."

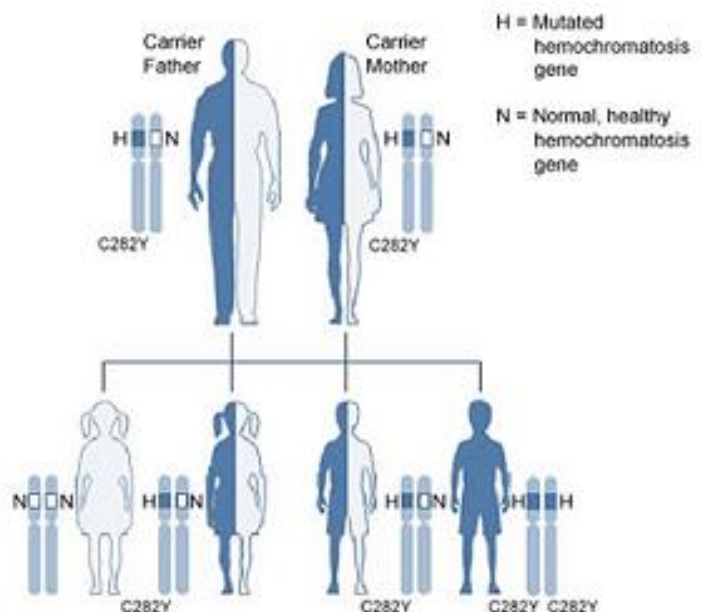
15 It's been a year since his diagnosis and O'Halloran's iron levels are almost back to normal. He will never have the same vitality of his youth and will need monitoring for the rest of his life, but it's a small price to pay for getting back on his feet.

By Arlene Harris, <https://www.irishtimes.com>, Jan 24, 2012

25 **Document 2 - The way haemochromatosis is inherited?**

If both parents are carriers (about 1 in 25 marriages), on average a quarter of the children will develop haemochromatosis, half will be carriers and a quarter will be normal.

<http://www.haemochromatosis-ir.com>



1. Curse: malédiction

2. A little bit of a pain: a little difficult