## Check for updates

## Science for kids: delayed cord clamping leads to more iron than on time cord clamping, which increases hepcidin

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IMAGE

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While the baby is in moms belly, the placenta gives the baby its food and blood. They are connected by the umbilical cord.

**Fig. 1** Baby with umbilical cord and placenta. The baby is connected to the placenta by the umbilical cord.

Doctors used to cut the umbilical cord as soon as the baby was born. Now doctors think that it might be better to cut the cord a little bit later



**Fig. 2** Doctor cutting the umbilical cord. The doctor wearing scrubs, a hair net, and a mask cuts the cord after putting clamps on the cord. The doctor cuts between the clamps so the blood does not go everywhere.

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**Fig. 3** Blood and red blood cells. Red blood cells are one part of blood. There are many things in blood that are not in the picture, like oxygen, salts, platelets, and white blood cells.

Hemoglobin in the red blood cells hold the iron the iron holds the Oxygen. Your whole body heeds Oxygen to work.



**Fig. 4** Babies with delayed vs on time cord clamping. Babies with delayed cord clamping have more red blood cells, and they are more likely to be happy and grow better. Babies with on time cord clamping have fewer red blood cells and are more likely to eat weird things like mud, paint, and ice, be pale, be irritable, and have fast heartbeats.



Delayed cord clamping allows more blood, and iron to get to the baby. This helps the baby grow better.



**Fig. 5** What is inside of red blood cells. Red blood cells have four hemoglobin chains; two are alpha hemoglobin (dark purple) and two are beta hemoglobin (light purple). Each hemoglobin molecule (all four parts together) holds four iron molecules (gray circles). Each iron molecule can hold one oxygen molecule (two oxygen atoms, blue circles next to iron).

this study showed that babies with delayed cond clamping have more hepcidin. Hepcidin controls how much inon your body can have. Having more hepcidin means your body has enough inon and doesn't need any more.

Delayed Mercidin

**Fig. 6** How delayed cord clamping affects hepcidin. Having delayed cord clamping makes hepcidin go up, which means your body does not need any more iron. Not having delayed cord clamping makes hepcidin go down, which tells your body you do not have enough iron.