



# HEPARIN

Heparin is a naturally occurring and therapeutic anti-coagulant (blood thinner). It is typically used to treat and prevent blood clots from forming in arteries, veins and the lungs.



## HEPARIN FOR PREECLAMPSIA PREVENTION?



Heparin has both anti-inflammatory and anti-coagulatory actions and may be able to combat the inflammation and coagulation that occurs in preeclampsia. Heparin may also reverse vascular dysfunction, helping to improve maternal blood pressure and uteroplacental blood flow. Its exact mechanisms of action in preeclampsia are not currently known.

## KEY FINDINGS

- The benefits of heparin use for the prevention of preeclampsia are conflicting. Some studies show it reduces the risk while others do not.
- A 2013 meta-analysis found that in women at high-risk of placental disease, heparin use during pregnancy lowered the risk of preeclampsia by 57% (7 trials, 761 women). However, this study noted a high degree of differences between the trials (e.g. when heparin was started) and when this was accounted for, the reduction in risk was no longer significant.
- Another meta-analysis showed that in women with a prior placenta-mediated pregnancy complication, heparin reduced the risk of preeclampsia, birth of a small-for-gestational-age newborn, placental abruption, or pregnancy loss >20 weeks by 48% (6 trials, 848 women). This was a composite outcome meaning any of those listed could have happened in the woman's pregnancy. It should be noted that many of the women included in these trials were also treated with aspirin at the same time.
- An individual patient data analysis in 2016 found that heparin did not significantly reduce the risk of recurrent preeclampsia in women with a history of placenta-mediated pregnancy complications.
- A 2016 meta-analysis looked at the benefit of adding heparin to low-dose aspirin therapy in early pregnancy. In women with a history of preeclampsia, treatment with heparin and aspirin compared with aspirin alone was associated with a 46% reduction in the risk of developing preeclampsia (3 trials, 379 women).



## CONCLUSION

Doctors may discuss using heparin (in combination with aspirin) in certain cases but currently there are no guidelines for its routine use in women at risk of developing preeclampsia. Further studies are required.

