

Does calcium supplementation improve pregnancy and infant outcomes?

Clinical Question	What is the effect and safety of calcium supplementation on maternal, foetal and neonatal outcomes?
Bottom Line	Calcium supplementation likely decreases the risk of a preterm birth (<37 weeks) but has little effect on birth before 34 weeks of gestation. The timing and type of calcium have minimal impact on preterm birth rates. There is insufficient data on supplementing with low-dose calcium to discern its effects. Calcium supplementation may not significantly affect the risk of low birthweight or maternal weight gain during pregnancy. It does not appear to increase bone mineral density or birthweight meaningfully. No evidence suggests it reduces intrauterine growth restriction, perinatal mortality, stillbirth, or foetal death rates. Additionally, calcium supplementation does not increase birth length or foetal head circumference and is not linked to adverse effects like postpartum haemorrhage, gallstones, gastrointestinal issues, headaches, urinary stones, UTIs, or impaired renal function.
Caveat	This review excluded studies that gave high dose calcium to prevent hypertension disorders as that is covered by another Cochrane review(https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD001059.pub5/full). This review also demonstrated a decrease in preterm birth for the women supplemented with Calcium during their pregnancies.
Context	Calcium is crucial for many body functions, including cell membrane maintenance, nerve function, muscle contraction, and bone mineralization. During pregnancy and lactation, women need more calcium to support foetal growth and maintain their own bone density. Recommended daily intake is 1200-1300 mg for pregnant women and 1000 mg for non-pregnant women. Calcium supplements, such as calcium carbonate, lactate, and gluconate, vary in absorption and side effects. Adequate calcium intake prevents maternal and foetal complications like osteoporosis and poor bone development. However, the impact of calcium supplementation on birthweight is unclear.
Cochrane Systematic Review	Kongwattanakul K, Duangkum C, Ngamjarus C, Lumbiganon P, Cuthbert A, Weeks J, Sothornwit J. Calcium supplementation (other than for preventing or treating hypertension) for improving pregnancy and infant outcomes. Cochrane Database of Systematic Reviews 2024, Issue 11. Art. No.: CD007079. DOI: 10.1002/14651858.CD007079.pub4. This review contains 19 trials which included 17,370 people.

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Systematic review link:

<https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD007079.pub4/full>