

Magnesium and Pregnancy

Advice passed down through generations of midwives includes giving Epsom salts (magnesium sulfate) throughout pregnancy. Therefore it comes as no surprise that magnesium is an important part of the whole miracle of ushering new life into the world. Conception, pregnancy, and delivery are times when nature, nutrients, and nurturing are the prescription, not drug intervention. I learned this important lesson from the astonishing results in the delivery room when magnesium was used to stop seizures and lower high blood pressure. This powerful yet safe medicine can do much more than we currently allow.

A 2013 study concluded “pre-eclampsia and pre-term birth are associated with hypomagnesemia (low magnesium) in pregnancy; hence, magnesium supplementation or magnesium-rich diet consisting of green leafy vegetables, soy milk and legumes may improve outcome.”¹

Another 2013 study concluded, “Magnesium supplementation prevented an increase in diastolic blood pressure during the last weeks of pregnancy. The relation between diastolic blood pressure and urinary excretion of magnesium suggests that magnesium is involved in the regulation of blood pressure and that the increase in diastolic blood pressure in pregnancy could be due to a lack of magnesium.”²

Seizures In The Delivery Room

Marie was not having an easy pregnancy. She had gained too much weight, she had headaches, and her ankles and hands were swollen. She also felt a tightness in her head and shortness of breath. At her eight-month visit to the doctor, her blood pressure was elevated, she had hyperactive reflexes, and her urine showed protein—all symptoms of preeclampsia (also called pregnancy-induced hypertension or toxemia). Preeclampsia occurs in 7 percent of all pregnancies and, according to the Preeclampsia Foundation, is responsible for at least 76,000 maternal deaths worldwide each year. A rapidly progressive condition characterized by high blood pressure, hyperactive reflexes, edema, headaches, changes in vision, and protein in the urine, it can escalate and cause seizures, at which point it is called eclampsia.

Eclampsia is a serious condition that can cause premature labor, premature birth, and cerebral palsy in the newborn. Marie’s doctor said that bed rest was the only solution to lower her blood pressure but that if she continued to have high blood pressure around the time of delivery, he would give her intravenous magnesium. Unfortunately, he did not have her current magnesium levels tested. Many researchers and clinicians recommend that pregnant women have a red blood cell magnesium test or EXATest and take 300–600 mg of supplemental magnesium.^{4, 5, 6} (Always check with your obstetrician or health care provider before adding any supplement, but know that magnesium has a long history of safety for both mother and child.)

Although magnesium is the treatment of choice for pregnancy-induced hypertension, it could be used more widely. Many researchers suggest that pregnant mothers routinely take magnesium throughout pregnancy to prevent complications during delivery and postpartum, and to help prevent premature births.⁷ Clinical trials have demonstrated that mothers supplementing with magnesium oxide have larger, healthier babies and lower rates of preeclampsia, premature labor, sudden infant death, and birth defects, including cerebral palsy.⁸

What has become apparent in recent studies, however, is that only 4 percent of magnesium oxide is absorbed and utilized in the body. Fortunately, Marie consulted a midwife specializing in pre-eclampsia, who was familiar with the use of magnesium in pregnancy. They checked the label of Marie’s prenatal supplement and found that it contained only 150 mg of magnesium; she really needed at least 360 mg just to meet the RDA for pregnant women. The midwife recommended that Marie take a magnesium

supplement to give her a total of 400 mg of elemental magnesium per day and that she increase her intake of magnesium-rich foods.

On this new regimen, Marie noticed many positive changes. She had less back and neck tension, was no longer constipated (a common side effect of pregnancy), had more energy, and lost her edema and puffiness. Finally, the tightness in her head lessened and her blood pressure began to go down. When she told all this to her obstetrician, he actually apologized for not being more aware of her magnesium status and said it was a good reminder for him to be more diligent about the amount of magnesium in his patients' prenatal supplements.

Magnesium sulfate given intravenously for eclampsia has been used successfully for more than seventy-five years.⁹ In the 1960s, the advent of new diuretics and anti-convulsant drugs threatened to displace magnesium sulfate. Drug companies continue to run expensive clinical trials to compare their newest antihypertensives and anticonvulsants to magnesium sulfate. Most studies show that magnesium is, in fact, more effective than synthetic medications, decreases both infant and maternal mortality, and is extremely safe. As one researcher remarked, "The significant improvement in fetal outcome with dietary magnesium supports the concept of magnesium supplementation during pregnancy."¹⁰

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References:

1. Enaruna NO, Ande A, Okpere EE. "Clinical significance of low serum magnesium in pregnant women attending the University of Benin Teaching Hospital." *Niger J Clin Pract.* 2013 Oct-Dec;16(4):448-53. doi: 10.4103/1119-3077.116887.
2. Arulkumaran N, Lightstone L. "Severe pre-eclampsia and hypertensive crises." *Best Pract Res Clin Obstet Gynaecol.* 2013 Aug 17. pii: S1521-6934(13)00098-9. doi: 10.1016/j.bpobgyn.2013.07.003.
3. Edoth AP, Tachev K, Hadou T, Gbeassor M, Sanni A, Creppy EE, Le Faou A, Rihn BH, "Magnesium content in seminal fluid as an indicator of chronic prostatitis." *Cell Mol Biol*, vol. 49, pp. 419–423, 2003.
4. Conradt A, Weidinger AH, "The central position of magnesium in the management of fetal hypotrophy—a contribution to the pathomechanism of utero-placental insufficiency, prematurity and poor intrauterine fetal growth as well as pre-eclampsia." *Magnesium Bull*, vol. 4, pp. 103–124, 1982.
5. Handwerker SM et al., "Ionized serum magnesium levels in umbilical cord blood of normal pregnant women at delivery: relationship to calcium, demographics, and birthweight." *Am J Perinatol*, vol. 10, no. 5, pp. 392–397, 1993.
6. Handwerker SM, Altura BT, Altura BM, "Serum ionized magnesium and other electrolytes in the antenatal period of human pregnancy." *J Am Coll Nutr*, vol. 15, no. 1, pp. 36–43, 1996.
7. Almonte RA et al., "Gestational magnesium deficiency is deleterious to fetal outcome." *Biol Neonate*, vol. 76, no. 1, pp. 26–32, 1999.
8. Seelig MS, "Toxemias of pregnancy, postpartum cardiomyopathy and SIDS in consequences of magnesium deficiency on the enhancement of stress reactions; preventive and therapeutic implications: areview." *J Am Coll Nutr*, vol. 13, no. 5, pp. 429–446, 1994.
9. Lazard EM, "A preliminary report on the intravenous use of magnesium sulphate in puerperal eclampsia." *Am J Obst Gynec*, vol. 9, pp. 178–188, 1925.
10. Seelig MS, *Magnesium Deficiency in the Pathogenesis of Disease: Early Roots of Cardiovascular, Skeletal, and Renal Abnormalities*, Plenum, New York, 1980.