

# Study identifies women at higher risk of significant bone loss on injectable birth control

December 21 2009

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Nearly half of women using depot medroxyprogesterone acetate (DMPA), commonly known as the birth control shot, will experience high bone mineral density (BMD) loss in the hip or lower spine within two years of beginning the contraceptive, according to researchers at the University of Texas Medical Branch at Galveston.

The study, reported in the January 2010 issue of [Obstetrics and Gynecology](#), was the first to show that women on DMPA who smoke, have low levels of calcium intake and never gave birth are at the highest risk for BMD loss. The researchers also found that high risk women continued to experience significant losses in BMD during the third year of DMPA use, especially in the hip — the most common fracture site in elderly women.

DMPA is an injected contraceptive administered to patients every three months. According to the American College of Obstetricians and Gynecologists, more than two million American women use DMPA, including approximately 400,000 teens. DMPA is relatively inexpensive compared with some other forms of [birth control](#), has a low failure rate and doesn't need to be administered daily, which contributes to the contraceptive's popularity.

"Bone mineral density loss is not a significant concern for all women who choose DMPA," says senior author Dr. Abbey Berenson, professor

in the department of obstetrics and gynecology and director of the Center for Interdisciplinary Research in Women's Health at UTMB.

According to Berenson, over the last several years there's been a fair amount of confusion about how to counsel patients. "Based on these findings, clinicians have the information they need to recommend basic behavior changes for high risk women to minimize BMD loss," she said.

The study followed 95 DMPA users for two years. In that time, 45 women had at least five percent BMD loss in the lower back or hip. A total of 50 women had less than five percent bone loss at both sites during the same period.

By and large, BMD loss was higher in women who were current smokers, had never given birth and had a daily [calcium intake](#) of 600 mg or less — far below the recommended amounts. Moreover, BMD loss substantially increased among the women with all three risk factors. Age, race or ethnicity, previous contraceptive use and body mass index were not associated with higher BMD loss.

The researchers followed 27 of the women for an additional year and found that those who experienced significant BMD loss in the first two years continued to lose bone mass.

"These losses, especially among women using DMPA for many years, are likely to take an extended period of time to reverse," says first author Dr. Mahburbur Rahman, assistant professor in the department of obstetrics and gynecology and Center for Interdisciplinary Research in Women's Health.

The researchers note that while this study will help physicians counsel [women](#) with modifiable risk factors who wish to use DMPA, prevention of [bone loss](#) while using the contraceptive and reversibility of BMD loss

are still not well understood and further research is needed.

Provided by University of Texas

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