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*The chances of developing osteoporosis and cardiovascular problems increase with feminizing hormones.*

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A 2012 paper [1] found that a quarter of the male-to-female transsexuals it studied had osteoporosis at the lumbar spine and radius.

In the same study, 6% of male-to-female transsexuals experienced a thromboembolic event (a blood clot causing obstruction), and another 6% experienced other cardiovascular problems. These effects were observed after only 11.3 years of hormone treatment on average.

A further study [2] found that long-term bone mineral density decreases in transwomen who take cross-sex hormones in the long term.

## REFERENCES

[1] Wierckx, K., Mueller, S., Weyers, S., Van Caenegem, E., Roef, G., Heylens, G. & T'Sjoen, G. (2012). Long-Term Evaluation of Cross-Sex Hormone Treatment in Transsexual Persons. *The Journal of Sexual Medicine* 9 (10): 2641-2651. [\[Link\]](#)

[2] Delgado-Ruiz, R., Swanson, P., & Romanos, G. (2019). Systematic Review of the Long-Term Effects of Transgender Hormone Therapy on Bone Markers and Bone Mineral Density and Their Potential Effects in Implant Therapy. *Journal of clinical medicine* 8 (6): 784. [\[Link\]](#)

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