Puberty blockers and cross-sex hormones negatively impact bone health in a significant number of cases.

There is little long-term evidence on bone mass density in relation to puberty blockers. However, in a significant minority of cases of long-term puberty suppression related to gender identity, bone mass density scores qualify as "low for age" [1]. Low bone mass density increases risk of osteoporosis and fractures.

Adolescents who enter puberty at an older age have persistently lower bone mass density than their peers [2]: in one case study [3], an adolescent had a bone mass density -2 standard deviations below the mean after three years of blocking puberty.

It has also been noted [4] that:

In early-pubertal transgender youth, BMD [bone mass density] was lower than reference standards for sex designated at birth. This lower BMD may be explained, in part, by suboptimal calcium intake and decreased physical activity–potential targets for intervention.

Bone metabolism is also decreased as a result of taking cross-sex hormones, for both males and (in later life) females [5].

REFERENCES

[1] Biggs, M. (2021). Revisiting the effect of GnRH analogue treatment on bone mineral density in young adolescents with gender dysphoria. Journal of Pediatric Endocrinology and Metabolism 34 (7): 937-939. [Link]

[2] Elhakeem, A., Frysz, M., Tilling, K., Tobias, J.H. & Lawlor, D.A. (2019). Association Between Age at Puberty and Bone Accrual From 10 to 25 Years of Age. JAMA Netw Open; 2(8). [Link]

[3] Pang, K.C., Notini, L., McDougall, R., Gillam, L., Savulescu, J., Wilkinson, D., Clark, B.A., Olson-Kennedy, J., Telfer, M.M. & Lantos, J.D. (2020). Long-term Puberty Suppression for a Nonbinary Teenager. Pediatrics 145 (2). [Link]

[4] Lee, J. Y., Finlayson, C., Olson-Kennedy, J., Garofalo, R., Chan, Y. M., Glidden, D. V., & Rosenthal, S. M. (2020). Low Bone Mineral Density in Early Pubertal Transgender/Gender Diverse Youth: Findings From the Trans Youth Care Study. Journal of the Endocrine Society 4 (9). [Link]

[5] Vlot, M.C., Wiepjes, C.M., de Jongh, R.T., T'Sjoen, G., Heijboer, A.C. & den Heijer, M. (2019). Gender-Affirming Hormone Treatment Decreases Bone Turnover in Transwomen and Older Transmen. J Bone Miner Res, 34: 1862-1872. [Link]

View original post and share on social media.