Bilaga till rapport

Åldersbedömning- magnetkameraundersökning av tillväxtzonen i lårbenets nedre del / Age estimation by magnetic resonance imaging of the knee, rapport 333 (2021)

Bilaga 2 Exkluderade studier och studier med hög risk för bias/Appendix 2 Excluded studies and studies with high risk of bias

Table of contents

Excluded studies
This part consists of articles considered possibly relevant in terms of abstract, but the full-text articles were irrelevant to the research question and other inclusion criteria, after assessment.

Studies with high risk of bias
This part consists of articles that were relevant, but after assessment for risk of bias considered to be studies with high risk of bias.

Excluded studies

Reference	Main reason for exclusion
Allen H, Liu F, Kijowski R, Nguyen J. T2mappingofarticular cartilageof the normal pediatric knee at 3.0 t. Skeletal Radiology. 2018;47(3):453–4.	Other reason
Boeyer ME, Ousley SD. Skeletal assessment and secular changes in knee development: a radiographic approach. American journal of physical anthropology. 2017;162(2):229–40.	Irrelevant population
Dallora AL, Berglund JS, Brogren M, Kvist O, Diaz Ruiz S, Dubbel A, et al. Age Assessment of Youth and Young Adults Using Magnetic Resonance Imaging of the Knee: A Deep Learning Approach. JMIR medical informatics. 2019;7(4):e16291.	Other reason
Dallora AL, Kvist O, Berglund JS, Ruiz SD, Boldt M, Flodmark CE, et al. Chronological Age Assessment in Young Individuals Using Bone Age Assessment Staging and Nonradiological Aspects: Machine Learning Multifactorial Approach. JMIR medical informatics. 2020;8(9) :e18846.	Other reason
Ding KY, Dahlberg PS, Rolseth V, Mosdøl A, Straumann GH, Bleka Ø, et al. Development stages of the knee and ankle by computed tomography and magnetic resonance imaging for estimation of chronological age: a systematic review. 2018:60.	Irrelevant study design
Ekizoglu O, Hocaoglu E, Can IO, Inci E, Aksoy S, Bilgili MG. Magnetic resonance imaging of distal tibia and calcaneus for forensic age estimation in living individuals. International Journal of Legal Medicine. 2015;129(4):825-31. Available from: https://doi.org/10.1007/s00414-015-1187-1.	Irrelevant index test
Gräwert S. Forensic age assessment by means of MRI of the knee. RoFo Fortschritte auf dem Gebiet der Rontgenstrahlen und der Bildgebenden Verfahren. 2019;191(3):187–8.	Irrelevant language
Konigsberg LW, Sgheiza V. The Use of Roche, Wainer, and Thissen's Skeletal Maturity of the Knee. Journal of forensic sciences. 2019;64(6):1769-75.	Irrelevant index test
Kvist O, Luiza Dallora A, Nilsson O, Anderberg P, Sanmartin Berglund J, Flodmark CE, et al. A cross-sectional magnetic resonance imaging study of factors influencing growth plate closure in adolescents and young adults. Acta paediatrica (Oslo, Norway: 1992). 2021;110(4):1249–56.	Irrelevant population, partly Overlap with Kvist et al. 2021

Laor T, Chun GF, Dardzinski BJ, Bean JA, Witte DP. Posterior distal femoral and proximal tibial metaphyseal stripes at MR imaging in children and young adults. Radiology. 2002;224(3):669–74. Available from: https://doi.org/10.1148/radiol.2243011259.	Other reason
Maggio A. The skeletal age estimation potential of the knee: Current scholarship and future directions for research. Journal of Forensic Radiology and Imaging. 2017; 9:13-5.	Irrelevant study design
Mauer MAd, Well EJv, Herrmann J, Groth M, Morlock MM, Maas R, et al. Automated age estimation of young individuals based on 3D knee MRI using deep learning. International journal of legal medicine. 2021;135(2):649-63.	Other reason
Meza B, LaValva S, Aoyama J, DeFrancesco C, Striano B, Shea K, et al. Knee bone age using MRI: Validation of a novel method to reduce hand bone age radiographs. Orthopaedic Journal of Sports Medicine. 2020;8(7).	Other reason
Meza BC, LaValva SM, DeFrancesco CJ, Striano BM, Aoyama JT, Carey JL, et al. MRI knee bone age: A novel shorthand approach to reduce bone age radiographs in children. Orthopaedic Journal of Sports Medicine. 2020;8(4).	Other reason
Mostad P, Tamsen F. Error rates for unvalidated medical age assessment procedures. International journal of legal medicine. 2019;133(2):613-23.	Irrelevant study design
Nagrale N, Patond S, Ambad R, Bankar N, Jain K. Forensic age estimation from proximal end of femur: A radiological study in living individuals. Indian Journal of Forensic Medicine and Toxicology. 2020;14(4):7117-20.	Irrelevant index test
Pennock AT, Bomar JD. Bone age assessment utilizing knee MRI. Orthopaedic Journal of Sports Medicine. 2017;5(7).	Other reason
Pennock AT, Bomar JD, Manning JD. The Creation and Validation of a Knee Bone Age Atlas Utilizing MRI. The Journal of bone and joint surgery American volume. 2018;100(4): e20.	Irrelevant outcome
Prove PL, Jopp-van Well E, Stanczus B, Morlock MM, Herrmann J, Groth M, et al. Automated segmentation of the knee for age assessment in 3D MR	Other reason

images using convolutional neural networks. International journal of legal medicine. 2019;133(4):1191–205.

Tamsen F. Results of age determinations indicate errors in the method. Resultat av aldersbedomningar pekar pa felaktigheter i metoden. 2017;114.	Irrelevant study design
Tamsen F. A majority of girls near the age of 18 may be misjudged as adults with MRI-knee. En majoritet av flickor nara 18 ar kan felbedomas som vuxna med MR-kna. 2017;114.	Irrelevant study design
Tamsen F. A majority of girls near the age of 18 may be misjudged as adults with MRI-knee. En majoritet av flickor nara 18 ar kan felbedomas som vuxna med MR-kna. 2017;114.	Duplicate
Timme M, Karch A, Shay D, Ottow C, Schmeling A. The relevance of body mass index in forensic age assessment of living individuals: an age-adjusted linear regression analysis using multivariable fractional polynomials. International journal of legal medicine. 2020;134(5):1861-8.	Irrelevant outcome
Timme M, Karch A, Shay D, Ottow C, Schmeling A. Age assessment of living individuals: the influence of socioeconomic status on skeletal and dental development in a German study cohort. Rechtsmedizin. 2021;31(1):35–41.	Other reason

Studies with high risk of bias

Ekizoglu O, Hocaoglu E, Inci E, Can IO, Aksoy S, Kazimoglu C. Forensic age estimation via 3-T magnetic resonance imaging of ossification of the proximal tibial and distal femoral epiphyses: Use of a T2-weighted fast spin-echo technique. Forensic Sci Int. 2016; 260:102. e1-. e7. Available from: https://doi.org/10.1016/j.forsciint.2015.12.006.

El-Din EAA, Mostafa HES, Tantawy EF, El-Shafei DA. Magnetic resonance imaging of the proximal tibial epiphysis: could it be helpful in forensic age estimation? Forensic science, medicine, and pathology. 2019;15(3):352–61.

Herrmann J, Saring D, Auf der Mauer M, Groth M, Jopp-van Well E. Forensic age assessment of the knee: proposal of a new classification system using two-dimensional ultrasound volumes and comparison to MRI. European radiology. 2020.