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TW3 - THE METHOD OF FIRST CHOICE FOR SKELETAL MATURITY ASSESSMENT

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Bone age (BA) has an important place in paediatric practice. The value of BA is the chronological age at which the bone maturity of the given child corresponds to the 50th centile. For bone maturity assessment, the fundamental value is the skeletal maturity score (SMS). In contrast to BA, SMS is independent on influences such as secular growth changes and socio-economic class. Skeletal maturity assessment is based on quantitative description of the radiograph of left hand and distal part of forearm.

For skeletal maturity assessment (diagnostics, therapy control, final height prediction etc.) we have been using the TW2 („point scoring system“) and the GP method (“atlas matching“) for many years. Immediately after the new TW3 method (2001) was released, we introduced this innovated version of TW2 into our routine use.

We compared the discrepancies observed between TW2 and GP with the results obtained by the new TW3. The mean difference between GP and TW3 is 0.1-0.2 years. The difference between results of TW2 a TW3 is 1 year, given by the construction of the two methods: while TW2 is based on 1960’s reference population, TW3 contains recent standards of ossification of European and Euroamerican subpopulations, accelerated versus the past time.

Based on our own findings and on long-term clinical experience we recommend for common practice the GP method everywhere where accurate evaluation is not required. For exact evaluation we definitely prefer TW3 method, TW2 we consider as already obsolete.

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