

3.2.3. Use of combined imaging-based methods

Case law shows that several jurisdictions rely on a combination of imaging-based methods, typically involving an X-ray examination of the hand or wrist, a panoramic X-ray of the dentition and an additional examination of the collarbone. This approach reflects scientific recommendations, including those of AGFAD, and has been considered by courts in Austria, Germany and Switzerland to mitigate the risk of inaccurate age estimates.

A detailed explanation appears in an August 2018 judgment of the Swiss Federal Administrative Court (FAC) concerning a Guinean applicant who contested the results of a triple bone test, citing discrepancies between the skeletal and dental findings and arguing that the assessment had not followed the AGFAD recommendations. FAC commissioned three independent expert reports and upheld the conclusion that the applicant was an adult. FAC found that Swiss forensic medicine institutes combine physical examinations and three imaging-based methods, of which only clavicular skeletal analysis and examination of dental development are suitable for determining whether a person is a minor or an adult. Hand and wrist X-rays are not conclusive about whether an applicant has reached the age of majority, but they involve significantly lower radiation exposure and are used to determine whether further examinations are necessary.

From the expert reports, FAC further concluded that the relevant metric is the combined results of the clavicle/skeletal analysis and dental examination. If both methods indicate a minimum age above 18, this constitutes a strong indication of adulthood. If only one does, the strength of the indication depends on whether the estimated age ranges overlap and, where they do not, whether a plausible medical explanation accounts for the discrepancy. If both minimum ages remain below 18, the assessment cannot reliably establish whether the person is a minor or an adult, even if the estimated maximum age exceeds 18. Based on this, FAC held that the age assessment had adequately addressed the discrepancies between the tests, noting that studies suggested that wisdom-tooth mineralisation may occur approximately one year earlier in African populations, while the applicant’s self-reported malnutrition in Cameroon could explain a slower skeletal development.

In Germany, the Higher Administrative Court of Bremen has also addressed concerns about radiation exposure and the reliability of age assessment results in a ruling of June 2018, confirmed by another ruling delivered by the same court on the same date. In both cases, the assessments consisted solely of a panoramic radiograph of the applicant’s dentition, with no further medical examinations performed in order to limit the applicant’s exposure to radiation. The court nevertheless held that, given the significant implications of classifying applicants as

adults or as children, a lower standard of certainty was not justified when greater certainty could be achieved by following the three-stage procedure recommended by AGFAD.

The court likewise referred to scientific studies indicating that skeletal maturation correlates with the socioeconomic circumstances of the population examined and that people of African descent may exhibit accelerated wisdom tooth development, increasing the risk of incorrect classification as adults when relying solely on panoramic dental radiographs. The Bremen court further stressed the importance of the minimum-age concept, under which the youngest age at which a particular characteristic occurs in the reference population of a study is used as the basis for the estimate, in order to reduce the risk of incorrectly classifying a minor as an adult. In both rulings the court found that the assessment did not meet the required standard and upheld the applicants' appeals.

Swiss and Austrian case law, like German case law, illustrates how medical age assessments may be afforded less weight or disregarded when they fail to meet reliability standards, including when an applicant's individual characteristics prevent a combined-method examination. In a ruling delivered in December 2025, the Swiss FAC considered the case of an undocumented Algerian national who underwent an X-ray examination of the left hand and a CT scan of the sternoclavicular joints but no dental orthopantomography due to the absence of developing teeth and third molars. The assessment estimated an average age of 19 years and a minimum age of 16.4 years. Although the court acknowledged that the expert report relied on incomplete statistical data because the dental examination was missing, it ultimately dismissed the appeal based on an overall assessment of the evidence. In particular, it considered the applicant's use of a false identity and nationality, his failure to provide identity documents that he had indicated could be obtained, and the vagueness and inconsistencies in his account of timelines. It concluded that his claimed date of birth was not more plausible than the fictitious date retained by the State Secretariat for Migration.

For its part, Austrian legislation provides for 'multifactorial' age assessments combining three types of medical examination: physical, dental and radiological. The practical implications of this requirement are illustrated by a November 2017 decision of the Austrian Federal Administrative Court concerning an Afghan applicant whose physical development was likely affected by medical conditions, including a form of polyarthritis. The medical practitioners had declined to perform X-rays of the carpal bones of the hand and the collarbones, considering them unsuitable in view of the applicant's short stature, and had assessed his age solely on the basis of a dental X-ray. The expert report itself acknowledged that this approach did not comply with AGFAD recommendations, prompting the court to disregard its findings. In the absence of other evidence, the court applied the benefit of the doubt in the applicant's favour and determined his age on the basis of his own statements.

Taken together, the case law reflects a noticeable trend towards greater caution in the use of medical examinations for age assessments. It is established under Article 25(3) of the APR that these procedures must respect the dignity of the child, and examinations involving nudity or genital inspection are strongly discouraged, with the CRC Committee and, for instance, current

French and Spanish national legal frameworks and German practice explicitly ruling them out. Courts and international bodies have also consistently emphasised the invasive nature of tests involving ionising radiation, particularly when conducted for non-medical purposes such as age assessment, as recently underlined by the ECtHR in *F.B. v Belgium*.

Across the jurisprudence, courts have raised concerns about the reliability of medical age assessments, emphasised the importance of combining different imaging-based methods, and stressed the need to clearly specify margins of error. Article 25(2) of the APR expressly provides that when the results of a medical age assessment are inconclusive or "include an age range below 18 years", the applicant must be treated as a minor *(see Section 4)*.

Finally, medical examinations are increasingly regarded as a subsidiary or last-resort measure, to be used only when less-intrusive methods are insufficient to establish age and never as a substitute for a careful, contextual assessment of all evidence available. This approach is likewise reflected in the Pact, with the APR establishing a two-step procedure under which medical examinations may only be carried out following an inconclusive multidisciplinary age assessment and requiring that the results of the medical examination be considered together with the findings of the assessment. An important question to be clarified in guidance documents or through domestic and European case law interpreting the APR is the threshold at which a multidisciplinary assessment may be considered insufficiently conclusive to allow recourse to medical methods. Some guidance in this regard may be drawn from national case law, including German jurisprudence, concerning visual examinations and age assessment interviews, which suggests that the threshold is reached when it cannot be excluded that a medical examination would find the applicant to be a minor.

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