

 **A big-data approach to producing descriptive anthropometric references: A feasibility and validation study of paediatric growth charts** (*Lancet Digital Health. 2019;1:e413-e423*)

WHO international growth standards or national charts are not always found to be perfectly calibrated with the growth of contemporary children in many countries. This study used a novel big-data approach to generate new national growth charts for French children. 32 randomly sampled primary care pediatricians and ten volunteer general practitioners were recruited, who used the same electronic medical records software, from which all physical growth data for children born from Jan 1, 1990, and aged 1 month to 18 years by Feb 8, 2018, with birth weight greater than 2500 g was extracted. Growth charts for weight and height were derived by using generalized additive models for location, scale, and shape with the Box-Cox power exponential distribution. It included 1458468 height and 1690340 weight measurements from 238102 children, in comparison to measurements for a median of 17000 children used for growth charts produced in the past worldwide. When compared, all height SD and weight percentile curves were distinctly above those for the existing French national growth charts, as early as age 1 month, with an average difference of 0.75 SD for height and 0.50 SD for weight for both sexes. Comparison with national cross-sectional surveys showed satisfactory calibration, with generally good fit for children aged 5-6 years and 10-11 years in height and weight and small differences at age 14-15 years.


The need to update height growth charts cannot be debated; however, caution should be exercised for updating weight growth charts, in the context of the increasing prevalence of childhood overweight and obesity worldwide.

 **Should paediatricians initiate orthopaedic hip dysplasia referrals for infants with isolated asymmetric skin folds?** (*J Child Orthop. 2019;13:593-9*)

Asymmetric skin folds (ASFs) around the hips in children are often considered an early clinical sign for diagnosing developmental dysplasia of the hip (DDH). This study was done with the purpose to see the utility of isolated ASFs as a screening tool for DDH in a series of patient referred for evaluation. It was a retrospective review of 66 (mean age 6.4 months) consecutive patients between 0 and 12 months of age referred to orthopedic clinics for isolated ASFs. All received pelvic radiographs or ultrasound; 79% were found to have acetabular dysplasia. 36 (55%) were considered normal by their treating physician, and 25 (38%) were considered dysplastic and underwent brace treatment. One hip with an isolated ASF was found to have a dislocated hip on radiograph prior to their initial orthopedic visit. Thus, isolated ASFs can be an indicator of mild dysplasia and warrant further workup or referral.

 **Systematic review and meta-analysis of virtual reality in pediatrics: Effects on pain and anxiety** (*Anesth Analg. 2019;129:1344-53*)

Medical procedures often evoke pain and anxiety in pediatric patients. Virtual reality (VR) is a relatively new intervention that can be used to provide distraction during, or to prepare patients for, medical procedures. The review assessed the effectiveness of VR on reducing pain and anxiety in pediatric patients undergoing medical procedures. The study showed that the overall weighted standardized mean difference (SMD) for VR was 1.30 (95% CI, 0.68-1.91) on patient-reported pain (14 studies) and 1.32 (95% CI, 0.21-2.44) on patient-reported anxiety (7 studies). It also showed a significant effect of VR on pediatric pain when observed by caregivers (SMD = 2.08; 95% CI, 0.55-3.61) or professionals (SMD = 3.02; 95% CI, 0.79-2.25). The results suggested that VR interventions for pain reduction were more efficacious for younger than for older children ($P = .015$). More specifically, the effect size of VR on pain decreased with 0.26 when age increased with 1 year. For anxiety reduction also, it was more efficacious for younger than for older children ($P = .023$). However, there was a difference in effect of VR for different medical procedures, so one should be careful when generalizing the suggested effect for VR to clinical practice.

 **Autonomous early detection of eye disease in childhood photographs** (*Science Advances. 2019;5:eaax6363*)

The reflection of visible light by the choroidal and retinal blood vessels causes the human pupil to appear red when examined by a handheld direct ophthalmoscope or photographed with a camera flash. Absence of red reflex can be a symptom of common and rare childhood eye disorders. The authors of this study aimed to evaluate the clinical utility of screening photographic leukocoria by using a free Smartphone application (CRADLE: Computer-Assisted Detector of Leukocoria) available as White Eye Detector. They retrospectively analyzed 52,982 longitudinal photographs of children, collected by parents, casual in nature, before enrollment in this study. The cohort included 20 children with retinoblastoma, Coats' disease, cataract, amblyopia, or hyperopia and 20 control children. For 80% of children with eye disorders, the application detected leukocoria in photographs taken before diagnosis by 1.3 (95% CI, 0.4 to 2.3) years.

Eventhough, this may not replace routine newborn and pediatric eye evaluation, these appears no harm in asking the parents to keep clicking pictures of their kids.

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