

295

INTERGROWTH-21st symphysis-fundal height chart: Safe for use in the NHS?

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Objective: NHS England recently issued a directive¹ against use of the INTERGROWTH 21st (IG21) estimated fetal weight standard because of its low antenatal screen positive rate for small-for-gestational-age (SGA) babies.² We wanted to investigate whether INTERGROWTH's standard for symphysis-fundal height,³ based on the same eight-country cohort as their fetal weight standard, has an appropriate screen positive rate when applied in the NHS population.

Methods: We studied 90,601 consecutive low-risk pregnancies from 43 NHS trusts between 2023 and 2025 that had three or more third-trimester SFH measurements. One measurement was selected randomly from each pregnancy and the IG21 SFH standard³ and the GROW 2.0 SFH standard⁴ were applied to compare SGA (<10th centile) screen positive rates.

Results: Table 1 lists pregnancy characteristics for our cohort and compares them with those reported for the IG21 standard.² Mothers in the NHS cohort were taller, heavier, with higher BMI and parity, and had babies with lower prematurity rate and higher term birthweight. The fundal height measurements were at a median 33+6 weeks (IQR 29+5–36+3). A total of 7,939 (8.8%) of SFH measurements were SGA according to GROW and 4,593 (5.1%) according to IG21, a reduction of screen positive rate by 42%.

Conclusion: Compared to the NHS population, the IG21 SFH standard is derived from pregnancies of smaller mothers and lower birthweights at term. As a result, it has a much lower screen positive SGA rate and is likely to miss many pregnancies potentially at risk due to fetal growth restriction.

References:

1. NHS England. Intergrowth estimated fetal growth charts. RCOG, 2025. Available at: <https://www.rcog.org.uk/guidance/browse-all-guidance/patient-safety-alerts/intergrowth-estimated-fetal-growth-charts/>
2. Merricks A, Hugh O, Gardosi J. Effect of INTERGROWTH-21st charts on identification of small-for-gestational age fetuses. In press. Available at SSRN: <https://doi.org/10.2139/ssrn.5622033>
3. Papageorgiou AT, Ohuma EO, Gravett MG et al. International standards for symphysis-fundal height based on serial measurements from the Fetal Growth Longitudinal Study of the INTERGROWTH-21st Project: prospective cohort study in eight countries. *British Medical Journal*, 2016;355:i5662. <https://doi.org/10.1136/bmj.i5662>
4. Perinatal Institute. GROW applications. 2025. Available at: <https://www.perinatal.org.uk/FetalGrowth/Tools>

		Current Cohort	Intergrowth ³	p value
Pregnancies		90,601	4239	
Maternal height (cm)	Mean (SD)	164.2 (6.7)	162.2 (5.8)	<0.01
Maternal weight (kg)	Mean (SD)	68.2 (12.0)	61.3 (9.1)	<0.01
Body mass index	Mean (SD)	25.3 (4.0)	23.3 (3.0)	<0.01
Ethnicity British	n (%)	57572 (63.5)	606 (14.3)*	<0.01
Nulliparous	n (%)	50855 (56.1)	2907 (68.6)	<0.01
Male infant	n (%)	46068 (50.9)	2106 (49.7)	p=0.14
Preterm birth (<37+0 weeks)	n (%)	1891 (2.1)	192 (4.5)	<0.01
Birthweight $\geq$ 37 weeks (g)	mean (SD)	3468 (440)	3267 (444)	<0.01

Table 295.1 Comparison of characteristics of study cohort and INTERGROWTH SFH cohort³.