

Ballard Score

Overview:

The Ballard Score assesses the physical and neuromuscular maturity of newborn infants.

Study Parameters:

- neuromuscular maturity: 6 parameters
- physical maturity: 7 parameters

Neuromuscular Maturity

	0	1	2	3	4	5
posture	wrists arms hips and legs straight	wrists bent and legs slightly bent	elbows hips and legs bent but do not reach 90°	elbows hips and legs bent to 90°	elbows & legs bent and drawn close to body	NA
square window (wrist)	90°	60°	45°	30°	0°	NA
arm recoil	180°	NA	110-180°	90-100°	< 90°	NA
popliteal angle	180°	160°	130°	110°	90°	< 90°
scarf sign	elbow beyond opposite axillary line	elbow to opposite axillary line	elbow to opposite midclavicular line	elbow to midline	elbow to axillary line	NA
heel to ear	leg straight toes reach chin	knee slightly bent heel reaches 140° from prone	knee bent heel reaches 120° from prone	knee bent to 90° heel reaches 90° from prone	knee bent heel reaches 45° from prone	NA

Physical Maturity

	0	1	2	3	4	5
skin	gelatinous red translucent	smooth pink visible veins	superficial peeling &/or rash few veins	cracking pale areas rare veins	parchment deep cracking no vessels	feathery cracked wrinkled
lanugo	none	abundant	thinning	bald areas	mostly bald	NA
plantar surface	no crease	faint red marks	anterior transverse crease only	creases anterior two thirds	creases over entire sole	NA

breast	barely perceptible	flat areola no bud	stippled areola 1 mm bud	raised areola 3 mm bud	full areola 5 mm bud	NA
ear	pinna flat stays folded	slightly curved pinna soft with slow recoil	well-curved pinna soft with ready recoil	formed & firm with instant recoil	thick cartilage ear stiff	NA
genitals male	scrotum empty no rugae	NA	testes descend-ing few rugae	testes down good rugae	testes pendulous deep rugae	NA
genitals female	prominent clitoris & labia minora	NA	majora & minora equally prominent	majora large minora small	majora cover clitoris & minora	NA

Ballard Score =

= SUM (points for each parametet)

Interpretation:

- minimum score: 0
- maximum score: 54

Correlation of score with gestational age

Score	Week
5	26
10	28
15	30
20	32
25	34
30	36
35	38
40	40
45	42
50	44

References:

Ballard JL Novak KK Driver M. A simplified score for assessment of fetal maturation of newly born infants. J Pediatr. 1979; 95: 769-774.