

Comparison: Universal newborn screening for abnormalities of the eye compared with no screening

Source: Malik ANJ, Evans JR, Gupta S, Mariotti S, Gordon I, Bowman R, et al. Universal newborn eye screening: a systematic review of the literature and review of international guidelines (submitted).

Certainty assessment							No of patients		Effect		Certainty (GRADE)	Importance
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Universal eye screening	No screening	Relative (95% CI)	Absolute (95% CI)		
Proportion of newborns with congenital cataract referred from maternity wards or well-baby clinics in the first year after birth – maternity ward screening compared with no screening												
1	observational studies	very serious ^a	not serious	not serious	not serious	none	49/328 523 (0.0%)	1/65 915 (0.0%)	RR 9.83 (1.36 to 71.20)	0 fewer per 1000 (from 0 fewer to 1 more)	⊕⊕○○ LOW	CRITICAL
Proportion of newborns with congenital cataract referred from maternity wards or well-baby clinics in the first year after birth – well-baby clinic screening compared with no screening												
1	observational studies	very serious ^a	not serious	not serious	very serious ^{b,c}	none	15/149 432 (0.0%)	1/65 915 (0.0%)	RR 6.62 (0.87 to 50.09)	0 fewer per 1000 (from 0 fewer to 1 more)	⊕○○○ VERY LOW	CRITICAL
Proportion of newborns with congenital cataract referred from any health facility* in the first year after birth – maternity ward screening												
1	observational studies	very serious ^a	not serious	not serious	serious ^b	none	61/328 523 (0.0%)	10/65 915 (0.0%)	RR 1.22 (0.63 to 2.39)	0 fewer per 1000 (from 0 fewer to 0 fewer)	⊕○○○ VERY LOW	CRITICAL
Proportion of newborns with congenital cataract referred from any health facility* in the first year after birth – well-baby clinic screening												
1	observational studies	very serious ^a	not serious	not serious	serious ^b	none	22/149 432 (0.0%)	10/65 915 (0.0%)	RR 0.97 (0.46 to 2.05)	0 fewer per 1000 (from 0 fewer to 0 fewer)	⊕○○○ VERY LOW	CRITICAL
Proportion of newborns with congenital cataract referred within 6 weeks (42 days) of birth – maternity ward screening												
1	observational studies	very serious ^a	not serious	not serious	not serious	none	46/328 325 (0.0%)	2/65 915 (0.0%)	RR 4.61 (1.12 to 19.01)	0 fewer per 1000 (from 0 fewer to 1 more)	⊕⊕○○ LOW	CRITICAL

Certainty assessment							No of patients		Effect		Certainty (GRADE)	Importance
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Universal eye screening	No screening	Relative (95% CI)	Absolute (95% CI)		
Proportion of newborns with congenital cataract referred within 6 weeks (42 days) of birth – well-baby clinic screening												
1	observational studies	very serious ^a	not serious	not serious	very serious ^{b,c}	none	9/149 432 (0.0%)	2/65 915 (0.0%)	RR 1.98 (0.43 to 9.19)	0 fewer per 1000 (from 0 fewer to 0 fewer)	⊕○○○ VERY LOW	CRITICAL
Proportion of newborns with congenital cataract operated on within 6 weeks (42 days) of birth – maternity ward screening												
1	observational studies	very serious ^a	not serious	not serious	not serious	none	41/328 523 (0.0%)	1/65 915 (0.0%)	RR 8.23 (1.13 to 59.80)	0 fewer per 1000 (from 0 fewer to 1 more)	⊕⊕○○ LOW	CRITICAL
Proportion of newborns with congenital cataract operated on within 6 weeks (42 days) of birth – well-baby clinic screening												
1	observational studies	very serious ^a	not serious	not serious	very serious ^{b,c}	none	9/149 432 (0.0%)	1/65 915 (0.0%)	RR 3.97 (0.50 to 31.33)	0 fewer per 1000 (from 0 fewer to 0 fewer)	⊕○○○ VERY LOW	CRITICAL
Adverse effects associated with screening (red reflex testing) – clinical conjunctivitis												
1	observational studies	very serious ^a	not serious	not serious	not serious	none	219/9338 (2.3%)	201/9532 (2.1%)	OR 1.22 (1.01 to 1.47)	5 more per 1000 (from 0 fewer to 10 more)	⊕⊕○○ LOW	CRITICAL
Adverse effects associated with screening (red reflex testing) – bacterial conjunctivitis												
1	observational studies	very serious ^a	not serious	not serious	serious ^b	none	40/9338 (0.4%)	33/9532 (0.3%)	OR 1.20 (0.76 to 1.90)	1 more per 1000 (from 1 fewer to 3 more)	⊕○○○ VERY LOW	CRITICAL

* includes maternity wards, well-baby clinics, paediatric clinics and others. Note: these analyses use additional data provided by the authors, as the publications did not give an adequate breakdown of the numbers.

a. The pooled effect provided by study "C".

b. Wide confidence interval crossing the line of no effect.

c. Less than 30 events.