Feasibility of Pulse Oximetry Screening for Critical Congenital Heart Disease at 2643-Foot Elevation.

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To evaluate the feasibility of implementing a pulse oximetry screening protocol at a city of mild elevation with a specific focus on the false-positive screening rate.

Pulse oximetry screening was performed according to the proposed guidelines endorsed by the American Academy of Pediatrics at a center in Tucson, AZ, at an elevation of 2,643 ft (806 m). During a 10-month period in 2012, 1069 full-term asymptomatic newborns were screened ≥24 h after birth.

The mean preductal oxygen saturation was 98.5 ± 1.3 % (range 92-100 %), and the mean postductal oxygen saturation was 98.6 ± 1.3 % (range 94-100 %). Of 1,069 patients screened, 7 were excluded secondary to protocol violations, and 1 screened positive. An echocardiogram was performed on the newborn with the positive screen, and it was normal with the exception of right-to-left shunting across a patent foramen ovale. The false-positive rate was 1/1,062 or 0.094 %.

The pulse oximetry screening guidelines recommended by the American Academy of Pediatrics are feasible at an elevation of 2,643 ft (806 m) with a low false-positive rate. Adjustments to the protocol are not required for centers at elevations ≤2,643 ft. Future studies at greater elevations are warranted