

The Effects of Swimming Goggles on Intraocular Pressure in Children

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ABSTRACT The aim of this study is to evaluate the effects of wearing swimming goggles on intraocular pressure in children. The study comprises of 20 eyes from 10 children, 4 male (40%) and 6 female (60%). The median age was 10.4 with a range of 9 to 11 years (mean age was 10.4). Before the study, the height (cm), weight (kg) and intraocular pressure values of children were measured by using two different appliances. Upon the durations of stay in water, 3 different periods were set at 5 minutes, 10 minutes and 20 minutes. Two different eye doctors measured intraocular pressure values of children with specified appliances after the end of each period and then immediately after the goggles were taken off. The average height of the children was 146.5cm ranging from 140 to 163 cm and the average weight was 42.84kg ranging from 33 to 51.6 kg. Before the goggles were worn, the average intraocular pressure value was measured at 16.5 ranging from 12 to 23 mmHg with a tono-pen and at 16.3 ranging from 11 to 22 mmHg with a non-contact tonometer for the right eye, while it was 16.6 ranging from 11 to 21 mmHg with a tono-pen and 16.2 ranging from 11 to 21mmHg with non-contact tonometer for the left eye. At the end of the first period (after 5 minutes), the average intraocular pressure value of right eye was 17.2 (12-23) mmHg measured with a tono-pen and 16.8 (12-23) mmHg measured with a non-contact tonometer, at the end of second period values were 17.0 (10-23) mmHg and 17.3 mmHg, respectively, at the end of the third period the values were 17.30 (13-24) mmHg and 17.60 (12-24) mmHg, respectively. The average intraocular pressure values of the left eye were 16.7 (11-22) mmHg and 16.3 (10-24) mmHg, respectively, at the end of second period values were 16.7 (10-25) mmHg, 16.6 (11-23) mmHg, respectively, and at the end of the third period the values were 17.70 (13-24), 17.10 (12-23) mmHg, respectively. The researchers considered that patients with glaucoma and suspected glaucoma should use well fitting swimming goggles, which do not have overly tightened straps and a small rim diameter.