

Comprehensive School Eye Health Program: Full Ophthalmological Examination for all Public Schools in São Paulo City, Brazil - 400 Thousand Scholars

Gil Ferreira, Bruna; Ferreira de Lima, Julia; Akahoshi do Nascimento, Cristina; Abujamra, Caio; Toenjes, Ralf; Aufmuth, Martin.

CONTEXT / BACKGROUND

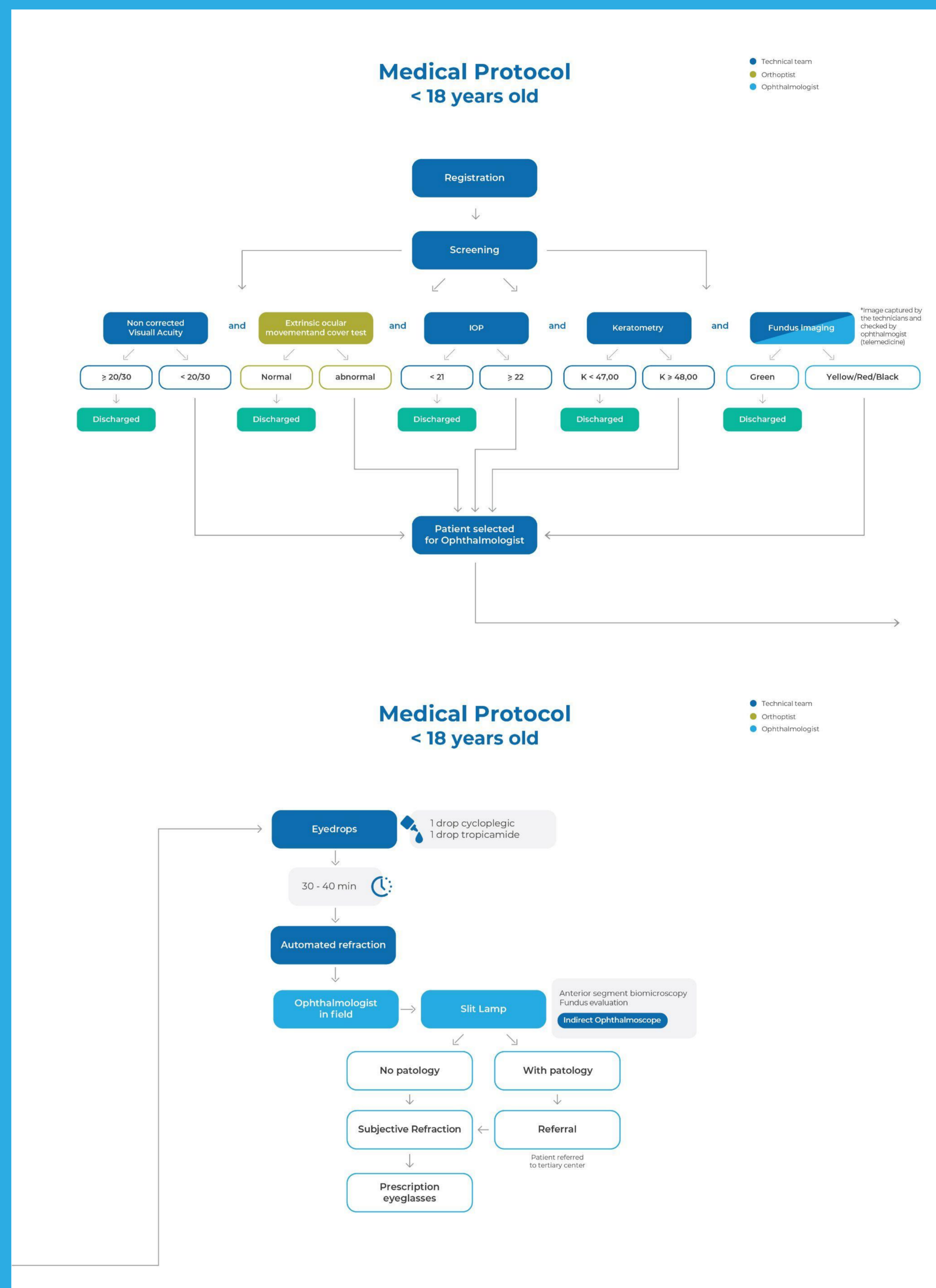
- Brazilian students don't have access to eye care = high drop-out rate and learning difficulties due to undiagnosed visual problems.
- Provide comprehensive eye care within the school environment, during the school period, in order to guarantee universal access.
- Academic years of 2024/2025.
- Around 400,000 students from all public schools in the city of São Paulo (aged between 6 and 17) will be examined.

METHOD / BACKGROUND

- Multidisciplinary teams - technicians, ophthalmic technologists, nurses and ophthalmologists.
- Screening process (all schoolchildren): visual acuity, blow tonometry, keratometry, extrinsic ocular motility, fundus imaging, automated refraction; it will be done on all schoolchildren.
- According to these exams, some will be referred to a consultation with the ophthalmologist on site. cycloplegia, subjective refraction and ocular fundus.
- Outcomes: healthy (discharged), refractive errors (complimentary eyeglasses donation) or possible pathology (referred to sub-specialty).
- All these steps will be carried out within the school, using portable equipment and new technologies.

OUTCOME / RESULTS

- The comprehensive screening stage will carry out all the exams on all the students.
- This protocol requires using high-tech, portable devices that objectively perform the assessment.
- It will be considered abnormal: **visual acuity (< 20/30), extrinsic ocular motility (altered), tonometry (>21mmHg), keratometry (>48.0D) and fundus imaging will be evaluated by artificial intelligence (AI).**
- With all these results, the technical team will classify the students and refer
- Only those with alterations to the consult will be referred, increasing the accuracy of the screening.
- Data will be collected from all public school students in the fifth most populated city in the world, making it possible to establish an epidemiological profile of this population.



IMPLICATIONS / CONCLUSIONS

Effectiveness of this eye care process, in a decentralized way; without losing medical quality and humanized care;

- Collection of essential data to understand the epidemiological profile of this population.
 - This is extremely important given the scarcity of data on ocular pathologies and access to eye care in Latin America.
 - The analysis of this data, considering the size of the sample, is a watershed for the ocular health of schoolchildren and can help construct future public health policies concerning the eye care of schoolchildren.