

<http://www.ncbi.nlm.nih.gov/pubmed/25118263>

Quantitative analysis of functional changes caused by pinhole glasses.

Author information

PURPOSE:

To quantify the visual functional changes caused by pinhole glasses.

METHODS:

Healthy subjects underwent ophthalmic examinations including uncorrected distance visual acuity (UDVA) and corrected near visual acuity (CNVA), pupil size, depth of focus (DOF), accommodative amplitude, visual field (VF) test, contrast sensitivity (CS), and stereopsis. Subjects underwent the same examinations while wearing pinhole glasses 1 week later.

RESULTS:

Forty-eight eyes of 48 subjects (24 male and 24 female) with a mean age of 35.5 ± 6.7 years and a mean spherical equivalent of -2.4 ± 3.3 diopters (D) were enrolled. The pinhole glasses significantly improved UDVA and CNVA (logMAR) from 0.44 ± 0.46 and 0.26 ± 0.40 to 0.19 ± 0.25 and 0.14 ± 0.22 , respectively. The pinhole glasses markedly enlarged pupils from 3.6 ± 0.5 mm photopic size to 6.0 ± 0.5 mm, very close to the mesopic size of 6.2 ± 0.6 mm. Mean DOF and accommodative amplitude also significantly increased by approximately 50%, while VF featured a general reduction of sensitivity. Mean deviation (MD) significantly decreased from -0.48 ± 1.57 to -4.22 ± 1.66 dB, and visual field index (VFI) decreased from $99.4 \pm 0.7\%$ to $98.4 \pm 1.3\%$. The CS decreased significantly at all four spatial frequencies, and stereopsis deteriorated with pinhole glasses.

CONCLUSIONS:

The pinhole glasses improved visual acuity, DOF, and accommodative amplitude; however, they resulted in decreased visual quality including general reduction of VF sensitivity, CS, and stereopsis. Therefore, particular attention is needed when wearing pinhole glasses while driving, playing sports, or working with instruments. (ClinicalTrials.gov number, [NCT02111356](https://clinicaltrials.gov/ct2/show/study/NCT02111356)).

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Conclusioni:

USANDO REGOLARMENTE I RASTERBRILLE (COME OCCHIALI NORMALI)

- Migliora: nitidezza, accomodazione (focalizzare vicino /lontano, = migliora la miopia e la presbiopia
- Peggiora: si reduce il campo visivo e la sensibilità al contrasto

CONCLUSIONI. Aiutano a ridurre la miopia e la presbiopia, ma bisogna praticare il metodo Bates per non perdere (e anzi migliorare) il campo visivo e la sensibilità al contrasto