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## Pressure Points

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**Introduction:** The gold standard device for intraocular measurement is the Goldmann Applanation tonometer. A number of factors can influence its measurements including the amount of fluorescein inserted, corneal thickness, astigmatic error and pressure on the globe. Errors of precision can be minimised by adjusting for these factors in examination or calculation. However, a step that is often omitted is calibration of the tonometer. No current UK guideline for tonometer calibration exists. Haag Streit suggest +/-0.5mmHg as an acceptable calibration error.

**Method:** The method outlined by the manufacture of Haag-Streit was implemented to assess the calibration of 11 Goldmann tonometers in the department. The dial was turned clockwise for the first measurement and anti-clockwise for the second measurement. Readings were averaged. Tonometers that were not calibrated within +/-1mmHg or due for service were returned to the manufacture. Tonometer calibration was re-audited one month later.

**Results:** 11 tonometers in the outpatient department were audited. 45% of Goldmann applanation tonometers were calibrated within limits of +/-1mmHg. Calibration error ranged between 0 to 8mmHg. 6 tonometers were sent back to Haag Streit for re-calibration and servicing. One month later calibration was reassessed.

**Conclusion:** All Goldmann applanation tonometers in the outpatient department are now calibrated within limits of +/-1mmHg. A proforma was introduced to be filled in on a monthly basis. Each Goldmann tonometer lying outside calibration limits will be sent to the manufacturer for servicing and recalibration. It is clear from this audit that the responsibility for tonometer calibration checks needs to be defined but will depend on local guidelines and acceptable calibration error. This audit demonstrates how important calibration is, and without this, how variable the measurements can be thus influencing our medical decisions. Without this being specified as part of routine equipment maintenance, its importance may be overlooked.

## Biography

Anika is a post foundation years doctor currently working as a Clinical Research Fellow at the Oxford Eye Hospital.

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