“The PASCAL DCT is the first totally new concept in tonometry in over 100 years. It is probably the most accurate of all the tonometers and is relatively independent of corneal biomechanical properties unlike its predecessors.”

R. Stamper, Optom Vis Sci. 2011 Jan
**PASCAL DCT: DYNAMIC CONTOUR TONOMETER**

IOP and OPA measurement without corneal influence

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Excerpts from original studies:

“According to our data, the DCT measurements came close to the true IOP.”  
A. Böhm et al. IOVS 2009

“The PASCAL DCT shows excellent measurement precision, displaying the best repeatability and reproducibility of the 3 tonometers.” [GAT, ORA, DCT]  

“These findings suggest that DCT-IOP is correlated with glaucomatous damage, and moreover, DCT-IOP is more closely related to extent of glaucoma damage than is GAT-IOP.”  
M. Sullivan Mee et al. J Glaucoma 2007

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4th World Glaucoma Consensus on IOP 2007:  
“Correction nomograms that adjust GAT IOP based solely on CCT are neither valid nor useful in individual patients. The corneal modulus of elasticity likely has a greater effect on GAT IOP measurement error than CCT.”  
R. Weinreb, J. Brandt, T. Garway Heath, F. Medeiros 2006

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(1) DCT-Sensor tip: no applanation but relaxation  
(2) Constant apposition force of only 1g  
(3) LCD display shows: IOP (True IOP), OPA (ocular pulse amplitude) and Q (measurement quality index)  
(4) Easy handling with just one knob
PASCAL'S CLINICAL BENEFITS

True IOP – No doubt

Independent from corneal properties like CCT and corneal rigidity.

DCT, in opposition to GAT, is near to independent of CCT. (Schneider E, Grehn F; J Glaucoma. 2006)

Ocular pulse amplitude OPA

PASCAL measures both static pressure (IOP) and pressure fluctuation (OPA).

Ocular pulse amplitude is reduced in patients with NTG or POAG. (Pfeiffer et al. Br. Journal Ophthalmology 2002)

Elimination of late or missed diagnosis

Due to false negatives from Goldmann tonometry.

IOP after LASIK: Surgery changes corneal biomechanics – not IOP. (E. Kirstein et al. Optometry 2005)

Highest repeatability

Allows a refined IOP progression analysis.

Cannulation study: “DCT measurements (black) come close to the true IOP (red)”. (A. Böhm; IOVS 2009)

Additional advantages

- PASCAL can optionally be connected to a wireless printer or PC and is EMR compatible.
- Due to the automatic self-calibration no additional calibration steps are needed.
- No fluorescein has to be used. The sterile sensor caps enable a fast and convenient workflow and avoid any risk for cross infection.
- “Relaxation” of the cornea by contact with the concave tonometer tip allows to measure the IOP directly and without corneal influence.
PASCAL is CE marked, FDA 510(k) cleared and fulfils the international standard for tonometers ISO 8612.

Manufacturer:
SMT Swiss Microtechnology AG
a Ziemer Group Company

Ziemer Group is a privately owned, Switzerland-based med-tech company, whose activities are focused exclusively on ophthalmology.

At Ziemer we strive to empower ophthalmologists and optometrists to deliver better vision care to their patients by creating superior surgical and diagnostic tools.

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Federal (U.S.) law restricts this device to sale by or on the order of a physician.
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