

07-01 Jan 07
Original Paper**Effects of Corneal Thickness, Corneal Curvature, and Intraocular Pressure Level on Goldmann Applanation Tonometry and Dynamic Contour Tonometry**

PMID 17070592

Brian A. Francis, Amy Hsieh, Mei-Ying Lai, Vikas Chopra, Fernando Pena, Stanley Azen, Rohit Varma, Los Angeles Latino Eye Study Group

Ophthalmology 2007;114:20-26

Intraocular pressure measured by GAT was consistently lower when compared with DCT, and this difference was greatest with thinner CCT. Dynamic contour tonometry was also less affected by variations in CCT. Corneal curvature affected IOP measurements with DCT but not GAT, but this effect was less than the CCT effect on GAT. Goldmann applanation tonometry tended to underestimate IOP at higher levels and overestimate it at lower IOP levels when compared to DCT.

> 2000 Latino patients (LALES study).

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=17070592

07-02 Jan 07
Original Paper**Changes in Corneal Biomechanics and Intraocular Pressure following LASIK, using static, dynamic, and noncontact tonometry**

PMID 17188041

Pepose JS, Feigenbaum SK, Qazi MA, Sanderson JP, Roberts CJ

American Journal of Ophthalmology, 2007: 143, Issue 1; p39-47.e1

IOP with PDCT appears to be relatively immune to changes in corneal biomechanics and pachymetry after LASIK. LASIK produced a marked decline in Corneal Hysteresis and Corneal Resistance Factor (CRF). In contrast, there was no statistical change in OPA.

66 myopic eyes before and after LASIK

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=17188041

07-03 Jan 07
Original Paper**Diurnal Variation of Central Corneal Thickness and Goldmann Applanation Tonometry Estimates of Intraocular Pressure**

PMID 17224746

Kirsten Elizabeth Hamilton, David Cecil Pye, Shivani Aggarwala, Sindy Evian, Joti Khosla, and Rachithri Perera,

J Glaucoma, Vol 16, Number 1, January 2007, p29-35

The results of this study have highlighted a potential link between the diurnal variation of CCT and the accuracy of Goldmann tonometry estimates of IOP during the first 2 hours after awakening. Clinicians should be wary of using Goldmann tonometry to estimate IOP until the overnight increase in CCT has resolved.

Until further information is available, clinicians may wish to use new generation tonometers such as the Dynamic Contour Tonometer, which is believed to measure the IOP without interference from corneal properties (...).

25 healthy volunteers, measured from 7AM to 11PM. GAT varies along with CCT changes (edema after wakening).

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=17224746

07-04 Mai 07
Poster**Influence of Age, Race and Corneal Properties on Intraocular Pressure, Corneal Thickness and Hysteresis**

PMID

L.M. Doi, L.A. S. Melo, Jr., A.C. S. V. Oshima, S.K. Hossaka, E.T. Sato, L.Pereira, A.Paranhos, Jr., J.A. Prata, Jr.. Ophthalmology, Federal University of Sao Paulo, Sao Paulo, Brazil.

ARVO 2007, Poster #B204, Program # 1249. Pre-Conference Online Abstract.

The age and race do not influence the IOP and CCT measurements, but are associated with the corneal hysteresis. Among the corneal properties, the mean keratometry and central corneal thickness are the main corneal factors related to IOP readings.

179 eyes.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={8D11C54E-1CAC-438E-8507-58D1323C5BF6}&SKey={0E1585BD-F4D2-4F93-936A-59A547AE0DA6}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-05 Mai 07
Poster**The Relationship Between Diurnal Changes in Corneal Thickness, Intraocular Pressure and Corneal Hysteresis**

PMID

C.Bergin, A.Kotecha, A.Spratt, C.Bunce, D.F. Garway-Heath,
Department of Optometry, City University, London, United Kingdom;
Glaucoma Research Unit, Research & Development, Moorfields Eye Hospital, London, United Kingdom.

ARVO 2007, Poster #B205, Program # 1250. Pre-Conference Online Abstract.

Corneal characteristics show small changes over normal office hours. Larger magnitude changes in IOP measurement are correlated with changes in CCF and CRF.

Smaller diurnal changes found with DCT compared to GAT.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={520253A4-F9E1-4C77-A780-DDE704999C61}&SKey={0E1585BD-F4D2-4F93-936A-59A547AE0DA6}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-06 Mai 07
Poster**The Influence of Age on Multiple Anatomic and Biomechanical Ocular Parameters in the Normal Healthy Eye**

PMID

J.D. Peterson, C.J. Roberts, R.D. Johnson, A.M. Mahmoud, S.S. Kondapalli, P.A. Weber

ARVO 2007, Poster #B199, Program # 1244. Pre-Conference Online Abstract.

DCT IOP and ORA IOPcc are pressure measurements that are less sensitive to corneal properties than other methods such as traditional GAT. The fact that neither DCT IOP nor ORA IOPcc showed a significant increase with age while GAT IOP did, suggests that "true" IOP is not increasing with age, but that the artifactual GAT increase is due to a change in corneal properties with age. As CCT was shown to have no relationship with age, the increase in GAT cannot be attributed to increasing corneal thickness. The significant increase in the "in" signal peak value suggests that corneal properties change with age in a manner not detected with CH and CRF. The decrease in RNFL thickness and other optic disk parameters that occur with age are not attributable to increasing IOP with age.

86 subjects aged 20-88. "Increase" of GAT IOP with age is an artifact!

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={98F96B2E-0882-4A9B-8CB8-A12270CEBFA6}&SKey={0E1585BD-F4D2-4F93-936A-59A547AE0DA6}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-07 Mai 07
Poster**Ocular Pulse Amplitude and Color Doppler Imaging in Normal Tension and Primary Open Angle Glaucoma**

PMID

I.G. Stalmans, A.Harris, T.G. Zeyen, V.Van Bellinghen, B.Siesky.

ARVO 2007, Poster #B1020, Program # 4383. Pre-Conference Online Abstract.

OPA and blood flow velocity parameters are significantly reduced in normal tension as well as high tension glaucoma patients. OPA and CDI parameters weakly correlate in healthy individuals, but not in glaucoma patients. Retrobulbar CDI readings are reproducible over time as well as between reading centers.

(partial results from MSD study).

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={8BCA3446-8587-4BD2-A3F7-4A4A1534B9CE}&SKey={2559EAE8-35FD-497E-A2D1-ECB608EE3CEB}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-08 Mai 07
Poster**Relationship Between Ocular Pulse Amplitude Examined by Dynamic Contour Tonometer and Intraocular Pressure or Central Corneal Thickness**

PMID

K.Imai, K.Mori, T.Ikushima, Y.Ikeda, M.Takemura, S.Kinoshita.

ARVO 2007, Poster #8213 , Program #1258 . Pre-Conference Online Abstract.

The OPA readings in both POAG and PACG examined by DCT showed a significant positive correlation with IOP, while a different trend was observed between the two glaucoma types. CCT showed little contribution to the OPA differences between the two eyes of matched axial length.

318 eyes. Investigated OPA difference between left and right eye.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={22189D32-F3E1-4A62-AB7B-970B170E306E}&SKey={0E1585BD-F4D2-4F93-936A-59A547AE0DA6}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-09 Mai 07
Poster**Electrical Analog Model of Ocular Pulse Amplitude as a Function of Systemic Pulse Pressure and Ocular Rigidity**

PMID

H.J. Karol, C.J. Roberts, R.H. Small.

ARVO 2007, Program/Poster #4946. Pre-Conference Online Abstract.

In the literature, OPA is considered as an isolated parameter related to ocular blood flow, which is an incomplete description. This model successfully represents the ocular pulse waveform and demonstrates how OPA, and to a lesser extent IOP, are dependent on both ocular rigidity and systemic pulse pressure. The next step is to drive the model with physiological data.

Purpose: to model the ocular pulse waveform and determine its relationship to systemic blood pressure and ocular rigidity.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={ED9D34E9-BA95-4BA8-B184-212595CB1A41}&SKey={8F2475C9-3703-44DB-8EDC-A92041427C7A}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-10 Mai 07
Poster**Ocular Pulse Amplitude Is Associated With Systemic Vascular Dysregulation**

PMID

J.Choi, J.Lee, C.Lee, M.Seong, M.S. Kook.

Dept of Ophthalmology, Asan Medical Center, Seoul, Republic of Korea.

ARVO 2007, Program/Poster #4386/1023. Pre-Conference Online Abstract.

OPA was increased in subjects with ischemic heart disease IHD or Raynaud's phenomenon. These findings suggest that OPA may be associated with autonomic dysregulation of the ocular blood flow.

61 subjects with glaucomatous visual field deficiencies. OPA was not correlated with visual field indices.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={137C108B-A4CA-496A-AB05-352CC693B30A}&SKey={2559EAE8-35FD-497E-A2D1-ECB608EE3CEB}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-11 Mai 07
Poster**Fourier Analysis of Ocular Pulse Amplitude Measurements in Glaucoma Patients and Healthy Subjects**

PMID

E.M. Hoffmann, S.Munkwitz, N.Pfeiffer, A.Woltmann, F.H. Grus.

ARVO 2007, Program/Poster #E.M. Hoffmann, S.Munkwitz, N.Pfeiffer, A.Woltmann, F.H. Grus.. Pre-Conference Online Abstract.

Using Fourier analysis it was possible to detect differences in the OPA pattern between glaucoma patients and healthy subjects.

25 patients + 15 healthy subjects. OPA was continuously recorded for at least 10 seconds. For each of the OPA recordings, a Fourier analysis was performed. Each fourier analysis was subsequently analyzed with multivariate analysis of discriminance and artificial neural network. It was possible to detect glaucoma based on the fourier analysis of the OPA with a sensitivity of 80 % at a specificity of 80% and an area under the curve (AUROC) of 0.9.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={08F72B1F-3A73-4107-88BB-E4B31C6F43CD}&SKey={0E1585BD-F4D2-4F93-936A-59A547AE0DA6}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-12 Mai 07
Poster**Relationship Between Ocular Pulse Amplitude and Choroidal Laser Doppler Flowmetry in Healthy Subjects**

PMID

R.Katamay, M.C. Grieshaber, K.Gugleta, J.Flammer, S.Orgül

ARVO 2007, Program/Poster # 2291/B900. Pre-Conference Online Abstract.

OPA seems to be more strongly associated with the choroidal blood flow than with the IOP level or systemic blood pressure in healthy subjects.

18 healthy subjects. Laser Doppler Flowmetry.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={B6B35944-D811-402F-A634-8286FC299B5A}&SKey={D3D064E7-DA02-4E1C-8346-98C8BE06A9F7}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-13 Mai 07
Poster**Effect of Riboflavin-UVA Induced Corneal Collagen Crosslinking on Intraocular Pressure Measurement**

PMID

T.S. Romppainen, L.M. Bachmann, C.Kaufmann, C.Kniestedt, M.Mrochen, M.A. Thiel

ARVO 2007, Program/Poster # 1848/B919. Pre-Conference Online Abstract.

In this in vitro model on normal de-epithelialized human corneas CCC resulted in an overestimation of IOP as compared to the reference pressure. The magnitude of this effect differs between the tonometry principles tested. For DCT and GAT the magnitude is too small to create a serious clinical safety problem for patients undergoing this novel treatment.

DCT: +1.6mmHg; GAT: +3.0mmHG; TP: +3.2mmHg IOP overestimation after crosslinking.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={9A365205-8E25-4373-B64C-E47D97BAE36C}&SKey={61E89D8F-D10A-4A54-9AB0-1CF695EDAE68}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-14 Mai 07
Poster**Ocular Pulse Amplitude in Patients With Primary Open Angle Glaucoma, Normal Tension Glaucoma, and Ocular Hypertension**

PMID

K.K. Huber, A.Stiegert, M.Tange, C.Koehler, M.Kaup, N.Plange, C.Rennings, A.Remky

ARVO 2007, Program/Poster # 1239/B194. Pre-Conference Online Abstract.

This study demonstrated significant differences of the OPA in different diseases. Since there is a considerably high correlation with IOP, these differences may be attributed mainly to the different IOP level rather than differences of ocular perfusion.

84 patients were included: POAG (n=35), NTG (n=18), OHT (n=10) and controls without any ocular pathology (n=21). OPA was statistically significant higher in the OHT group (4.5 ± 0.8 mmHg) compared with all other groups (OHT 4.5mmHg; POAG 3.2mmHg; NTG 2.4mmHg; controls 2.9mmHg).

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={164020DE-AD48-4429-B18B-BD7605B721DB}&SKey={0E1585BD-F4D2-4F93-936A-59A547AE0DA6}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-15 Mai 07
Poster**What Does Ocular Pulse Amplitude Tell Us About Glaucoma?**

PMID

S.Munkwitz, E.M. Hoffmann, N.Pfeiffer, A.Woltmann, F.H. Grus.

ARVO 2007, Program/Poster # 1240/B195. Pre-Conference Online Abstract.

The glaucoma patients had lower OPA than healthy subjects. An explanation might be that our patients were treated for glaucoma with a mean IOP of 18.4 ± 1.5 mm Hg. It would be interesting to know if OPA changes after a wash-out period of local treatment in one eye of glaucoma patients in order to investigate if therapy influences OPA measurements.

20 Glaucoma patients, 10 healthy controls. Central corneal thickness was not correlated to OPA in both groups.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={4C008F80-FFE8-4143-9BBD-FC3FEA3C4CF5}&SKey={0E1585BD-F4D2-4F93-936A-59A547AE0DA6}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-16 Mai 07
Poster**Intraocular Pressure, Corneal Thickness, and Corneal Hysteresis During Pregnancy**

PMID

A.K. Sousa, T.S. Prata, C.A. A. Garcia Filho, L.M. Doi, A.Paranhos, Jr..

ARVO 2007, Program/Poster # 3154/B1096 . Pre-Conference Online Abstract.

The pregnant women showed lower Goldmann IOP in comparison with measurements of ORA and DCT. The CCT was normal during pregnancy while corneal hysteresis was increased, although constant throughout the gestation period. The difference in IOP readings of pregnant group did not correlate with CCT and hysteresis.

Mean GAT IOP 10.8mmHg in pregnant women; 15.2mmHg with DCT.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={6DF7DC13-A437-4C16-BBFB-906D02D519D5}&SKey={B18F348A-7AC2-4812-9BEC-BFD5D28BDDE9}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-17 Mai 07

Poster

Ocular Pulse Aplitude in Patients With Asymmetric Primary Open-Angle Glaucoma

M.P. Ventura, H.P. Solari, M.V. M. Brasil, R.S. Alonso, G.P. Cardoso, R.Ambrosio, Jr.

PMID

ARVO 2007, Program/Poster # 4382/B1019 . Pre-Conference Online Abstract.

OPA was significantly higher in the worse eyes. According to this data there was no evidence that the OPA could play a protective role in asymmetric POAG.

The aim of this study was to evaluate OPA using DCT in patients with asymmetric POAG and asymmetric IOP. 48 patients with asymmetric POAG

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={F5B9AD2A-47E8-4F1E-A6AC-32FFED6D4557}&SKey={2559EAE8-35FD-497E-A2D1-ECB608EE3CEB}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-18 Mai 07

Poster

Assesment of Intraocular Pressure and Corneal Histerisys in Rheumathoid Arthritis

T.S. Prata, C.A. A. Garcia Filho, A.K. S. Sousa, A.Paranhos, Jr., L.M. Doi.

PMID

ARVO 2007, Program/Poster # 3153/B1095 . Pre-Conference Online Abstract.

The IOP results using GAP were lower when compared with the DCT and ORA in both groups, and this difference was higher in the RA group. The CCT was within the normal range in both groups. These findings could be explained by the corneal hysteresis, which is lower in patients with Rheumatoid Arthritis than in normal patients.

10 RA patients; 15 matched controls. GAT IOP is lower in RA, whereas DCT showed no difference between groups.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={1D9BB7E5-137D-4939-A6B8-6C2233FB0940}&SKey={B18F348A-7AC2-4812-9BEC-BFD5D28BDDE9}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-19 Mai 07

Poster

Ocular Dimensions, Corneal Viscoelasticity, and Optic Nerve Surface Compliance

A.P. Wells, A.Poostchi, T.Wong, K.Chan, N.Sachdev, D.F. Garway-Heath

PMID

ARVO 2007, Program/Poster # 1248/B203 . Pre-Conference Online Abstract.

Corneal hysteresis, but not central corneal thickness or other anterior segment parameters, was associated with increased deformation of the optic nerve surface during transient elevations of intraocular pressure.

100 s0bjects. Elevated IPOP induced with suction ring. No effects on IOP and OPA

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={EF189449-68F5-48E9-8668-C7815457E5F0}&SKey={0E1585BD-F4D2-4F93-936A-59A547AE0DA6}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-20 Mai 07

Poster

Comparison of PASCAL Dynamic Contour Tonometry Using a Standard Slip-lamp Mounted Device, a Handheld Configuration, and a Contact Lens Mounted Sensor: Implications for Continuous 24 Hour IOP Monitoring

C.J. Roberts, A.M. Mahmoud, M.D. Twa, H.J. Karol, P.A. Weber, H.Kanngiesser

PMID

ARVO 2007, Program/Poster # 1254/B209 . Pre-Conference Online Abstract.

The trend toward higher IOP measurements with the contact lens sensor compared to the other two configurations may be due to a fixed contact area between the lens and cornea that is bigger than the self adjusting contact area between normal eyes and the standard contour tip. A bigger contact area may provoke an initial increase in measured IOP. Long term measurements are needed to show if this is a transient effect. Further product development may also enable wireless connection with data acquisition electronics, which has the potential to provide continuous IOP measurements during normal activities, including sleep.

Contact Lens DCT reads 2mmHg higher than standard PASCAL and hand-held.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={6EFE523D-7136-4A04-A1D3-2F1F63D2EF47}&SKey={0E1585BD-F4D2-4F93-936A-59A547AE0DA6}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-21 Mai 07
Poster**Reproducibility of Dynamic Contour Tonometry, Applanation Tonometry and Corneal Hysteresis in Healthy Subjects**

PMID

S.K. Hossaka, L.M. Doi, L.A. S. Melo, Jr., A.C. S. V. Oshima, E.T. Sato, L.F. Pereira, A. Paranhos, Jr., J.A. Prata, Jr.

ARVO 2007, Program/Poster # 1251/B206 . Pre-Conference Online Abstract.

The Goldmann and Pascal tonometers had satisfactory and better intraobserver reproducibility than ORA measurements. The corneal hysteresis and corneal resistance factor readings showed similar, moderate intraobserver reproducibility.

182 eyes. Standard dev.: GAT 0.78mmHg; DCT 0.91mmHg; ORA: 1.3mmHg

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={5C69EC72-51B3-4217-BCA6-5090438A77EA}&SKey={0E1585BD-F4D2-4F93-936A-59A547AE0DA6}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-22 Mai 07
Poster**Predictive Value of Ocular Pulse Amplitude in Patients With Graves' Disease as Measured With the Dynamic PASCAL Contour Tonometry**

PMID

U.G. Loew, C. Jonescu-Cuypers, F. Schirra, L. Troeber, A. Harris, Z. Gatzoufas, M. Krause, B. Seitz

ARVO 2007, Program/Poster # 5268/B479. Pre-Conference Online Abstract.

Pulse amplitude measurements with the new PASCAL device may be useful in early clinical documentation and follow-up of optic nerve damage in patients with ophthalmic Graves' disease. It seems that ocular pulse amplitude may represent a sensitive indicator of subclinical neuropathy in such patients.

Purpose: To investigate the clinical value of the ocular pulse amplitude in detection of early blood flow dysfunction in patients with Graves' disease. Graves' related pathological conditions are known to ultimately lead to reduction or even loss of visual acuity or atrophy of the optic nerve head due to increased intraocular pressure. 54 patients.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={C569BDE9-7B48-4423-86BE-4EEABDB8382D}&SKey={151F11F8-A422-4F26-B61E-9E24E113CFF4}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-23 Mai 07
Poster**Clinical Comparison of Pascal® Dynamic Contour Tonometry and Goldmann Applanation Tonometry in Asymmetric Open-Angle Glaucoma**

PMID

M. Sullivan-Mee, K.D. Halverson.

ARVO 2007, Program/Poster # 1252/B207 . Pre-Conference Online Abstract.

These findings suggest that DCT-IOP is more closely related to extent of glaucoma damage than is GAT-IOP. The most likely explanation for these results is that GAT-IOP systematically underestimates IOP compared to DCT-IOP. Our findings also support the hypothesis that corneal biomechanical factors other than CCT are the major confounders of applanation tonometry measurements.

67 patients. mean DCT IOP was significantly higher in higher AGIS-score eyes, while mean GAT-IOP was not significantly different.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={D15B3391-B068-4AE0-8887-D913D6E98985}&SKey={0E1585BD-F4D2-4F93-936A-59A547AE0DA6}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-24 Mai 07
Poster**Tonometry in Corneal Edema Using Dynamic Contour Tonometry After Cataract Surgery**

PMID

C. Rennings, N. Plange, M. Kaup, A. Remky.

ARVO 2007, Program/Poster # 1246/B201. Pre-Conference Online Abstract.

DCT does not give any additional information compared to GAT in patients with corneal edema. However, a marked difference in IOP values using GAT or DCT is apparent in some subjects.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={EE8AFEFB-97A7-46E8-91D9-03984E173C89}&SKey={0E1585BD-F4D2-4F93-936A-59A547AE0DA6}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-25 Mai 07

Poster

Relationship Between Ocular Pulse Amplitude and Systemic Blood Pressure Measurements

M.C. Grieshaber, R.Katamay, K.Gugleta, J.Flammer, S.Orgül.

PMID

ARVO 2007, Program/Poster # 4384/B1021 . Pre-Conference Online Abstract.

The OPA readings measured with dynamic contour tonometry in healthy subjects are not influenced by the blood pressure and its amplitude, probably due to regulatory mechanisms in the carotid artery. It seems however that the OPA rather depends on the time course of the cardiac contraction.

29 subjects

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={FDABAE17-64B9-46E4-A25B-C9D81AC2890E}&SKey={2559EAE8-35FD-497E-A2D1-ECB608EE3CEB}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-26 Mai 07

Poster

To Evaluate the Action of the Travoprost 0.004% in the Ocular Pulse Amplitude

R.A. Barros, P.Y. Kitice, T.H. C. Nunes, R.Canovas, W.G. Amorim, J.R. Rehder.

PMID

ARVO 2007, Program/Poster # 3932/B887 . Pre-Conference Online Abstract.

OPA was significantly lower as well as the IOP after use Travoprost 0.004% for on month. PDCT may be a useful device for further studies involving OPA.

48 eyes. OPA reduced from 3.4 to 2.7mmHg. GAT IOP reduced 5mmHg; DCT OIP reduced 4mmHg.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={FCB53322-E1E6-4AA6-9B06-117F600FE211}&SKey={D8E218CE-A4C4-44EB-8AC2-C85D2112854B}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-27 Mai 07

Poster

Intraocular Pressure Measurement Comparison Between Dynamic Contour Tonometry and Goldmann Applanation Tonometry Before and After a Water Drinking Test

G.Tapia Herrera, D.Mena, D.Flikier, L.Wu.

PMID

ARVO 2007, Program/Poster # 3936/B891 . Pre-Conference Online Abstract.

IOP measurements obtained with DCT are higher than the ones obtained by GAT. This relation is maintained after a WDT. The ocular pulse amplitude has a tendency to increase after a WDT.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={FD3D61C1-C57A-46C4-8F05-1C1F9F84A39C}&SKey={D8E218CE-A4C4-44EB-8AC2-C85D2112854B}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-28 Mai 07

Poster

The Effect of Acute IOP Changes on Ocular Pulse Amplitudes Measured by Pascal Dynamic Contour Tonometry

A.G. Boehm, A.Weber, E.Spoerl, L.E. Pillunat.

PMID

ARVO 2007, Program/Poster # 4945. Pre-Conference Online Abstract.

An isolated increase of IOP leads to a significant increase of OPA. Additionally, OPA is affected by other parameters, e.g. CCT, corneal curvature, AL, age, and sex suggesting that factors connected with a stiffness increase of the wall of the eye globe lead to an increase of OPA.

Cannulation Study; 60 eyes. Females had lower OPAs than males. Bland-Altman analysis showed a good agreement of intracameral OPA measurements with OPA taken by DCT.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={7CEA5F04-B9C8-4438-B020-6C81D1D7BBCD}&SKey={8F2475C9-3703-44DB-8EDC-A92041427C7A}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-29 Mai 07
Poster**Evaluation of Reboundtonometry (ICare) Compared With TonoPenXL and Goldmann Applanation Tonometry**

PMID

W.Schreiber, C.K. Vorwerk, A.Langensbucher, W.Behrens-Baumann, A.Viestenz

ARVO 2007, Program/Poster # 1259/B214 . Pre-Conference Online Abstract.

The ICare tonometer is easy to handle with a high reliability. The data are apparently comparable to the Goldmann tonometer. A tonographic effect of about 1 mm Hg at successive measurement series should be noticed.

This paper compares only handheld tonometers

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={4315FD95-24BE-4551-B7FD-33C28A6550B2}&SKey={0E1585BD-F4D2-4F93-936A-59A547AE0DA6}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-30 Mai 07
Poster**Relationship of IOP Measurements by Dynamic Contour Tonometry and Goldmann Applanation Tonometry With Functional and Structural Glaucomatous Damage**

PMID

M.S. Kook, J.Choi, J.Lee, C.Lee, M.Seong.

ARVO 2007, Program/Poster # 1261/B216 . Pre-Conference Online Abstract.

IOP measurements by DCT showed as similar degree of association with glaucomatous damage as those by GAT. DCT seems to be as effective as GAT in revealing the mechanism of pressure-dependent glaucomatous damage.

172 Glaucoma suspects.

www.abstractsonline.com/viewer/viewAbstractPrintFriendly.asp?CKey={8E2D245D-F74D-4FB1-AE15-E7FFD4407DBD}&SKey={0E1585BD-F4D2-4F93-936A-59A547AE0DA6}&MKey={0AEC998A-0BCA-41AF-A530-43715608C824}&AKey={C7EBB51B-512B-49A6-B4F2-0ADB01DC195B}

07-31 Mai 07
Original Paper**Clinical evaluation of the PASCAL Dynamic Contour Tonometer**

PMID 17417152

Detry-Morel M, Jamart J, Detry MB, Ledoux A, Pourjavan S

J Fr Ophthalmol. 2007 Mar; 30(3): 260-270

DCT IOP measurement variability was slightly higher than APL (applanation tonometry) with relatively wide 95% limits of agreement. Considering the entire study population, DCT overestimated IOP by a mean 2.0 mmHg compared with APL. DCT was independent of CCT, especially in thin corneas.

07-32 Jun 07
Original Paper**Effect of Corneal Thickness on Dynamic Contour Tonometry and Goldmann Applanation Tonometry in Primary Open-angle Glaucoma**

PMID

Grieshaber MC, Schoetzau A, Zawinka C, Flammer J, Orgul S

Arch Ophthalmol. 2007;125:740-744

(Archives of Ophthalmology Vol 125, No. 6, June 2007)

GAT and DCT measurements were dependent on CCT in patients with POAG. Because IOP differences between DCT and GAT were independent of CCT, DCT and GAT are susceptible to similar measurement biases depending on CCT.

Average DCT measurements in Glaucoma patients are 4mmHg higher than GAT. IOP difference DCT vs. GAT increased with age but not with CCT.

07-33 Jun 07
Original Paper**Comparison of IOP measurement using GAT and DCT in patients with penetrating keratoplasties**

PMID 17576716

A R Ismail, M Lamont, S Perera, D Khan-Lim, R Mehta, J D A Macleod and D F Anderson (Southampton Eye Unit, Southampton General Hospital, Southampton, United Kingdom)

British Journal of Ophthalmology 2007;91:980-981 (BMJ)

Prospective study of 10 patients with unilateral penetrating keratoplasty.
No abstract available (yet).

07-34 Mrz 07
Original Paper**Ocular pulse amplitude: a new biometrical parameter for the diagnose of glaucoma?**

Romppainen T, Kniestedt C, Bachmann LM, Stürmer J.

PMID 17323044

Ophthalmologe. 2007 Mar;104(3):230-5

CONCLUSION: The size of the OPA seems to be characteristic for different types of glaucoma and directly dependent on intraocular pressure levels. Further investigation is indicated to clarify its diagnostic usefulness.

441 eyes (Article in German)

[http://www.ncbi.nlm.nih.gov/sites/entrez?](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=ShowDetailView&TermToSearch=17323044&ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum)

[Db=pubmed&Cmd=ShowDetailView&TermToSearch=17323044&ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=ShowDetailView&TermToSearch=17323044&ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum)

[Pubmed_ResultsPanel.Pubmed_RVDocSum](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=ShowDetailView&TermToSearch=17323044&ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum)

07-35 Jun 07
Original Paper**Comparison of dynamic contour tonometry (Pascal) with pneumotonometry and Goldmann tonometry**

Heras-Mulero H, Moreno-Montañés J, Sádaba Echarri LM, Mendiluce Martín L.

PMID 17573642

Arch Soc Esp Oftalmol. 2007 Jun;82(6):337-342

As reported by others authors, the Pascal(R)'s intraocular pressure measurement is higher than that of the Goldmann tonometer. The measurement differs from 0.7 to 4.4 mmHg. In corneas with pathology, it is very difficult or even unacceptable to measure the intraocular pressure using the Pascal (R) tonometer

(Article in Spanish) Reports quality data on 205 patients.
