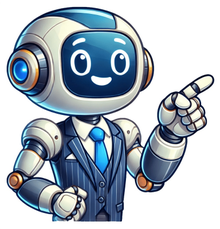
I'm not a bot



Humphrey field analyzer test

Guided Progression Analysis SITA Faster 24-2C GPA enables detection and assessment of changes in glaucoma progression using mixed SITA tests taken on any HFA instrument. Is your patient recovering, stable, or getting worse? Check with GPA to find the answer. GPA helps you to prioritize or augment glaucoma treatment by assessing the probability of visual field impairment. April Jasper, OD and Robert Fechtner, MD discuss Do's, Don'ts and How-to's in a 12-minute conversation packed with tips, visuals and clinical examples proving that GPA is an easy to use and powerful "early warning" system for glaucoma doctors and patients. SITA Faster 24-2 improves clinical workflow and patient satisfaction with the fastest test time in HFA threshold testing. Approximately 50% faster than SITA Standard, SITA Faster 24-2 is also about 30% quicker than SITA Fast, yet offers the same reproducibility. The animation shows typical test image ranges in minutes (mean +/- std. dev.)1 Prof. Anders Heijl, one of the inventors of SITA algorithms and a pioneer of computerized perimetry, explains why SITA Faster is on its way to becoming the new gold standard in visual field testing. New SITA Faster 24-2C adds ten test points to the 24-2 pattern, which were selected to examine areas along physiologically relevant nerve fiber bundles known to be susceptible to glaucomatous defects. The visual field indices MD, PSD and VFI in Single Field Analysis (SFA) are calculated using all the 62 points of the 24-2C test, including the 10 points in the macular area. Having five or more 24-2C tests allows for GPA across all test points of this pattern enabling you to outline an appropriate treatment based on expected rate of glaucoma progression that includes the information in the central macula area. Dr. C. Gustavo De Moraes, an expert in structural and functional changes in glaucoma, explains how the SITA Faster 24-2C testing paradigm helps detecting early macular involvement in the central field defects and how this new test can help elevating glaucoma practice. As the engine driving ZEISS HFA, SITA has come a long way since it was first developed for Humphrey Field Analyzer. Today, the innovation first designed to optimize visual field testing is doing that and much more, for both doctors and patients. This video documentary narrated by the creators of the SITA algorithm, Prof. Anders Heijl and Prof. Boel Bengtsson, goes over the rich history and the current ambition of the ever evolving SITA. Maximum temporal range (degrees) Visual field testing distance SITA™ Standard, SITA Fast, SITA Faster, Full Threshold Threshold related, Single intensity Social Security Disability, monocular, binocular Esterman monocular, binocular, superior 36, 64 OPV (Ophthalmic Visual Field) IOD (Information Object Definition) license for purchase Share — copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt — remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution — You must give appropriate credit , provide a link to the license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. ShareAlike — If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. No additional restrictions — You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. Tool used by eye care professionals Figure 1 - Humphrey field analyser Humphrey field analyser (HFA) is a tool for measuring the human visual field that is commonly used by optometrists, orthoptists and ophthalmologists, particularly for detecting monocular visual field.[1] The results of the analyser identify the type of vision defect. Therefore, it provides information regarding the location of any disease processes or lesion(s) throughout the visual pathway. This guides and contributes to the diagnosis of the condition affecting the patient's vision. These results are stored and used for monitoring the progression of vision loss and the patient's condition.[2] The analyser can be used for screening, monitoring and assisting in the diagnosis of certain conditions. There are numerous testing protocols to select, based on the purpose. The first number denotes the extent of the field measured on the temporal side, from the centre of fixation, in degrees. The '-2' represents the pattern of the points tested.[3] They include: 10-2: Measures 10 degrees temporally and nasally and tests 68 points. Used for macula, retinal and neuro-ophthalmic conditions and advanced glaucoma[4] 24-2: Measures 24 degrees temporally and 30 degrees nasally and tests 54 points. Used for neuro-ophthalmic conditions and general screening[5] as well as early detection of glaucoma[6][7] 30-2: Measures 30 degrees temporally and nasally and tests 76 points. Used for general screening, early glaucoma and neurological conditions[6] The above tests can be performed in either SITA-Standard or SITA-Fast. SITA-Fast is a quicker method of testing. It produces similar results compared to SITA-Standard, however repeatability is questionable and it is slightly less sensitive[8][9] There are additional tests for more specific purposes such as the following: Esterman – Used to test the functionality of a patient's vision to ensure they are safe to drive, as requested by VicRoads, Australia[10][11] SITA SWAP: Short Wavelength Automated Perimetry (SWAP) is used for detection of early glaucomatous loss[5] Figure 2 - Chin Rest and Lens HolderThe analyser test takes approximately 5–8 minutes, excluding patient set up. There are multiple steps which need to be done before commencement of the test to ensure reliable results are attained. The test type and eye are firstly selected and the patient's details are entered, including their refractive error. The analyser will provide a lens strength and type (either spherical and/or cylindrical), if required for the test. In these instances, wire-rimmed trial lenses are generally used, with the cylindrical lens placed closest to the patient so the axis is easily read. The clinician can alter the fixation targets as per necessary (see Fixation Targets for advice).[12] Before putting the patient onto the machine, the patient is instructed to maintain fixation on the central target and is given a buzzer to only press when they see a light stimulus. It is not possible to see every light and some lights appear brighter/duller and slower/faster than others. The eye not being tested is patched and the room lights are dimmed prior to commencement of the test.[12] The patient is positioned appropriately and comfortably against the forehead rest and chin rest. Minor adjustments to the head position are made to centre the pupil on the display screen to allow eye monitoring throughout the test. The lens holder should be as close to the patient's eye as possible to avoid artefacts (see Disadvantages for possible artefacts). It is important for the patient to blink normally, relax and maintain concentration throughout the test. This will increase the reliability of results.[12] Figure 3 - Fixation targets left: central, middle: small diamond, right: large diamond The analyser projects a series of white light stimuli of varying intensities (brightness), throughout a uniformly illuminated bowl. The patient uses a handheld button that they press to indicate when they see a light. This assesses the retina's ability to detect a stimulus at specific points within the visual field. This is called retinal sensitivity and is recorded in 'decibels' (dB).[1] The analyser currently utilises the Swedish Interactive Thresholding Algorithm (SITA); a formula which allows the fastest and most accurate visual field assessment to date. Results are then compared against an age-matched database which highlights unusual and suspicious vision loss, potentially caused by pathology.[8] There are different targets a patient can fixate on during the test. They are chosen on the basis of the patient's conditions.[12] Central target: Yellow light in the bowl's centre Small diamond: For patients who cannot see the central target such as those with macular degeneration. The patient looks into the centre of the four lights Large diamond: For patients who cannot see the above two[12] Issues of reliability are critical in result interpretation. These include, but not limited to, the patient losing concentration, closing their eyes or pressing the buzzer too frequently. Monitoring fixation is made visible via the display screen and gaze tracker, located at the bottom of the printout. The degree of reliability is determined by the reliability indices located on the printout (Fig. 4). These are assessed first and allow the examiner to determine if the end results are reliable. These indices include: Fixation losses: Recorded when a patient responds to a stimulus that is projected on to area of their blind spot. Fixation losses exceeding 20%, are denoted with an 'XX' next to the score, and deems results unreliable[12] False positives: Recorded when a patient responds when there is no stimulus present. This patient is often referred to as 'buzzer happy'. False positives exceeding 15% are denoted with an 'XX' and results are considered unreliable. This may indicate that the patient is anxious and concerned about missing targets[12] False negatives: Recorded when a patient does not respond to brighter stimuli where a duller stimulus has already been seen. High false negative scores indicate that the patient is fatigued, inattentive, a malingerer or has genuine significant visual field loss.[12] Literature presents various percentages regarding reliability. However, majority of the literature defines that false negatives exceeding approximately 30% deem results unreliable.[13][14][15] Figure 4 - Analyser Printout 1: Reliability Indices 2: Numerical Display 3: Grey Scale 4: Total Deviation 5: Probability Display 6: Pattern Deviation 7: Global Indices 8: Glaucoma Hemifield Test 9: Visual Field Index After reliability is determined, the remaining data is assessed. The numerical display represents raw values of patient's retinal sensitivity at specific retinal points in dB. Higher numbers equate to higher retinal sensitivities. Sensitivity is greatest in the central field and decreases towards the periphery. Normal values are approximately 30 dB while recorded values of