

## Automated Perimetry

Because so many different models exist, exact operating instructions will not be provided here. Instead, it is expected that the assistant will familiarize him/herself with the manual provided with the equipment used in their office. The following are some tips and guidelines that are generally universal regardless of the exact type of automated perimeter used.

### Do's and Don'ts

- New patient data MUST include, age, pupil size (if dilating drops are instilled, wait until full dilation before testing) and distance prescription.
- Trial lenses should have as narrow a ring holder as possible and be as close to the patient's brow as possible.
- Patient alignment should be comfortable. Patients who are too high for the chin rest or too low may show artefacts of reduced superior or inferior fields.
- Foveal threshold measurement is required.
- Pause testing as required. The patient can do this automatically during testing by holding down on the joystick button.
- Regularly monitor fixation - if fixation losses are greater than two in the first 10, then stop the test and re-plot the blind spot.
- Reliability Indices - check to ensure they are not unusually high.
- Room lighting - background or ambient lighting can significantly change the results of peripheral visual field sensitivities. Keep room lighting dim, as this will speed up the patient's adaptation to the background lighting required for the visual field testing.
- Keep doorways closed and windows covered. Stray light and shadows can be reflected off the inner surface of the field tester. Shutting the doors and covering the windows will avoid this. Conversation and movement can also affect concentration of the patient. Soft music in the exam room, however, may soothe the patient and mask movements of the assistant within the test room.

### Reliability Indices

Fixation: Poor fixation can be a result of several errors. If fixation losses are greater than 2 in the first 10, check the common mistakes below and re-plot the blind spot before continuing with testing:

- Plotting right eye when "left eye" has been selected and vice versa.
- Poor patient alignment.
- Poor instruction on fixation target.

- Improper prescription used.
- Inability to see normal fixation target.

**False Positives:** False positive rate is a measure of how many times the patient will respond to a stimulus that does not exist. These **trigger-happy** patients will often anticipate the rhythm of target presentations by using sound cues. A rate of 33% false positives or more is abnormally high and indicates poor reliability or inaccurate field testing. If the false positives are three or more in 10, then pause the testing. Review with the patient their criteria for responding positively (e.g., **“Although some of the test lights will be very dim, it is important that you are pressing the joystick button only when you are reasonably sure you saw a stimulus”**).

**False Negatives:** In many cases if patients are unsure of when to positively respond, they may be hesitant in pressing the trigger. If a patient has already seen a point and upon a second presentation, does not see a considerably brighter stimulus at that same location, a false negative will be recorded. A rate higher than 33% yields unreliable results. As with the false positives, pause if there are more than 3 out of 10 false negatives, and review the testing procedure with the patient. Encourage the patient that some of the target stimuli will be very dim, and they are to respond if they think that they see a dim stimulus.

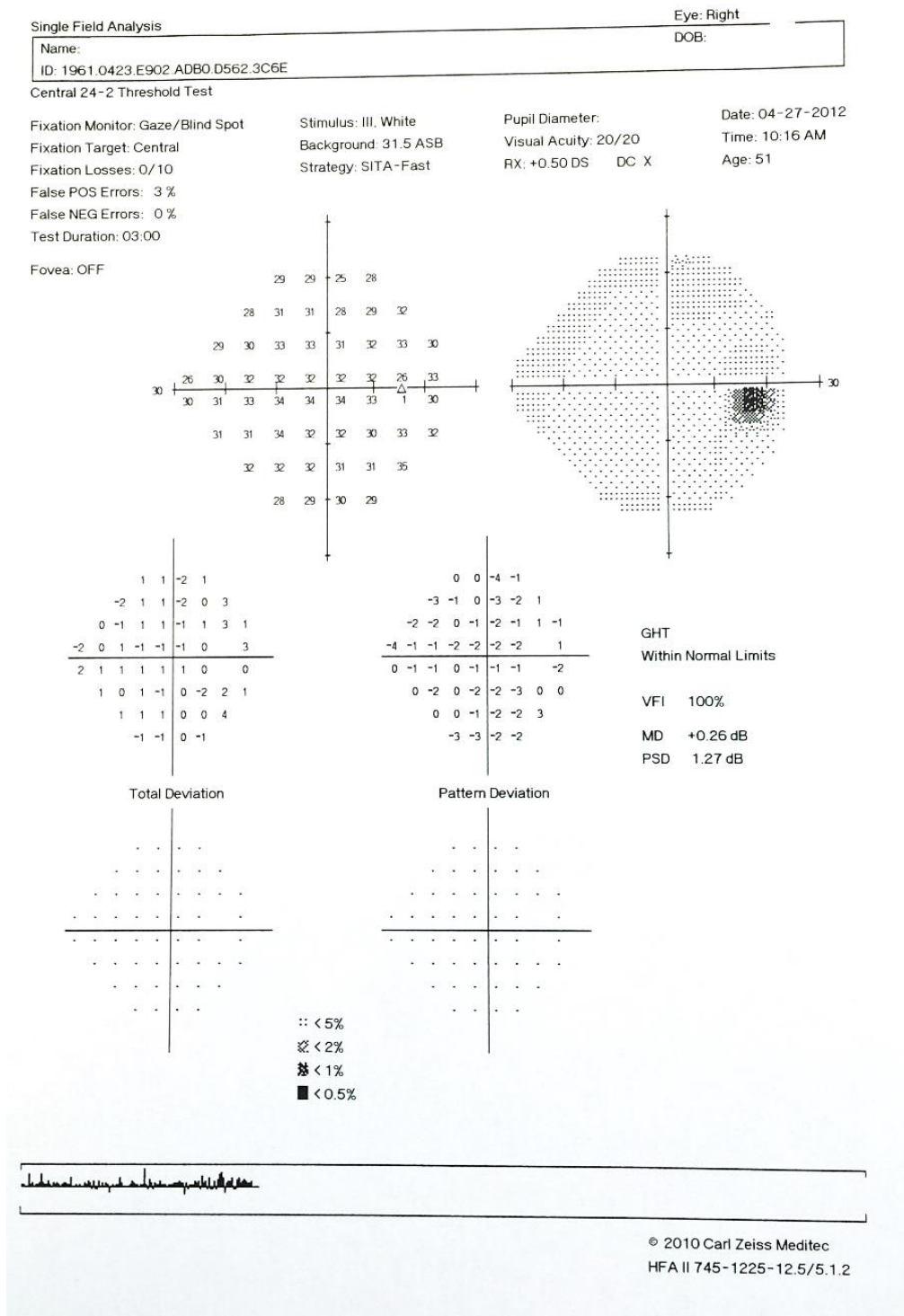


Figure 3.10 Example of a Humphrey Automated Visual Field 24-2 of a Right Eye