Determining Disability and Statutory Blindness – An Overview

CCVIP Tip

Any optometrist, whether or not she or he provides low vision rehabilitation services, may be called upon at times to provide a patient with certification of "legal blindness", "statutory blindness", "disability" or "percent disability".

Every optometrist learned that "legal blindness" was 20/200 or worse or a 20 degree field or worse, but things have gotten much more complex since the Social Security Administration made changes in their policies from 2005 to 2013. To assist the optometrist who is trying to navigate this, the COA Low Vision Committee has developed a series of six articles. This first one, that you're reading now, is an overview to help you determine which of the other articles might apply to your patient. Below are some of the situations you might find yourself in, and the article that would apply. Please note that some of the articles will be printed in upcoming Viewpoint editions this coming spring and summer.

- For the patient who is applying for Social Security Disability due to loss of visual acuity alone, consult the second article in our series, called Social Security Disability – Visual Acuity. Remember that we're talking about visual acuity in the **better eye** with **best optical correction** in place.

- For the patient who is applying for Social Security Disability due to loss of visual field alone, direct your attention to our third article, Social Security Disability – Visual Field. Use of automated static perimeters is now allowed under Social Security regulations.

- Some patients who are applying for Social Security Disability don't meet the criteria based on visual acuity or visual field alone, but have some loss of both. The most recent changes in the Social Security regulations allow for the combination of visual acuity and visual field loss. The fourth article in our series guides you through this process, and is called Social Security Disability – Combining Visual Acuity and Visual Field.

- Sometimes people want to be certified "legally blind" for reasons other than Social Security disability. The most common case is the person, who may
be retired, who simply wants to get the extra exemption through the IRS to save money on their income tax. There are other examples as well, which will be explained in, Statutory Blindness for Needs Other than Social Security.

- Finally, you may encounter a patient who has suffered vision loss from an ocular injury, frequently while on a job site, in one or both eyes. You may be called upon to determine the percent of vision loss. This determination may be used to determine the level of financial compensation or health care benefits that will be provided for this patient by his or her employer or the employer's insurance company. If this best describes your patient's need, go to our last article, Determining Percent Disability for Legal Cases.

Below is a list of the articles in this series. We hope you find them helpful.

1. Determining Disability and Statutory Blindness – An Overview
2. Social Security Disability – Visual Acuity
6. Determining Percent Disability for Legal Cases (coming July/August, 2017)

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March, 2017
Social Security Disability – Visual Acuity

CCVIP Tip

Being visual impaired can be financially taxing. Medical costs including doctor visits, medications, nursing home care, as well as indirect costs, such as the inability to work and generate an income can cause financial hardships. Social Security Disability benefits can alleviate some of this financial strain. All optometrists have the ability to certify their qualifying patients as legally blind and providing this assistance may be very beneficial.

The Social Security Administration defines legal blindness (also called statutory blindness) as best-corrected central visual acuity of 20/200 or worse in the better eye using a Snellen acuity chart; or a visual field limitation such that the widest diameter of the visual field, in the better eye, is 20° or less. (Please note: The June, 2015 CCVIP Pearl addressed the issue of using threshold perimetry in determining legal blindness for visual field loss)

Measuring Visual Acuity: Most test charts that use Snellen methodology do not have lines that measure visual acuity between 20/100 and 20/200. Newer test charts, such as the Early Treatment Diabetic Retinopathy Study (ETDRS), do have lines that measure visual acuity between 20/100 and 20/200.

For Social Security purposes, if a patient's visual acuity is measured with one of the newer charts, and they cannot read any of the letters on the 20/100 line, they will qualify as legally blind, based on a visual acuity of 20/200 or less. For example, if the person's best-corrected visual acuity for distance in the better eye was determined to be 20/160 using an ETDRS chart, they would be classified as legally blind (using Snellen equivalent). Regardless of the type of test chart used, the person will not be classified as legally blind if they can read at least one letter on the 20/100 line. For example, if a patient's best-corrected visual acuity for distance in the better eye was determined to be 20/125\(^{+1}\) using an ETDRS chart or 20/200\(^{+1}\) using a Snellen chart, they would not be classified as legally blind.

For More Information: The SSA Blue Book listings for vision loss appear on the Social Security Administration website. The site includes information on which tests are used to measure visual acuity, visual field and visual efficiency.


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To access links to previous “CCVIP Articles” go to www.colorado.aoa.org – Programs - CCVIP
Using Automated Static Threshold Perimetry to determine Legal Blindness

CCVIP Tip

Since July, 2007, the use of automated static threshold perimetry has been allowed to determine if a patient qualifies for Social Security disability due to statutory blindness. The following steps will help you determine this for your patients:

STEP 1: Is the automated static threshold perimetry test acceptable?
- Must use a white, size III, Goldmann stimulus and a 31.5 apostilb (10 candelas/m²) white background.
- The points tested must be no more than 6° apart horizontally or vertically and measure 24° to 30° around the point of fixation (the standard 30-2 or 24-2 may be acceptable test patterns, see below).
- Since you don't know ahead of time if you will utilize the "pseudoisopter" method or the "Mean Deviation" method, it would be a very good idea to run a 30-2, as that works for either.

STEP 2: Is the test reliable?
- The test is NOT reliable if the patient has fixation losses exceeding 20%, or if the false positive or false negative errors exceed 33%.
- The test results must be consistent with the clinical findings and the patient's daily functional activities.

STEP 3A: Use the Mean Deviation Method
- Do the results meet section 2.03B’s requirements for blindness based on Mean Deviation?
- For Section 2.03B, which is based on the Mean Deviation, a 30-2 must be performed (24-2 is not allowed).
- It's wise to check this first, because if the patient qualifies, this is far less work than the calculations required in the following section.
- A patient qualifies for Social Security disability if the Mean Deviation for the better eye measured with a qualifying automated static 30-2 (not 24-2) is -22 dB or worse. For example, -24.5 dB qualifies, -20.7 dB does not qualify.

STEP 3B: Do the results show Statutory Blindness based on a "pseudoisopter", also known as Section 2.03A?
- For tests performed on a qualifying automated perimeter, a 10 dB threshold is equivalent to a 4e Goldmann intensity. Therefore, any point with a threshold of 10 dB or higher is a "seeing point"; any point 9 dB or lower is considered a "non-seeing point".
- Use the dB printout to determine if the widest diameter of the field is less than or equal to 20°. Draw a line between the "seeing" and "non-seeing" of all two adjacent tested points where one threshold is 10 dB or greater and the other threshold is less than 10 dB. If more than one number is shown for a particular point, use the higher number to determine if the point is a seeing point. You have just drawn the "pseudoisopter".
- Draw a line through the longest diameter across the pseudoisopter which goes through fixation. On a 30-2 or 24-2 the tested points are 6° apart. Use this to measure horizontal and vertical vectors of the diameter line you just drew. Then use the Pythagorean Theorem \(a^2 + b^2 = c^2\) to calculate the length of the diameter line. If the line indicating the longest diameter through fixation falls along the horizontal or vertical axis, it could be determined directly, and not require the Pythagorean Theorem, but this is rarely the case.
- The patient has statutory blindness if the widest diameter in the better eye is less than or equal to 20° and the evidence in your record is consistent with a medically determinable impairment that could result in the visual field loss.
- Here's an example:
In this example, the pseudoisopter is the box-like line that is drawn between the points that are 10 dB or more and those which are less than 10 dB. Note that the raw data in the top of the printout is what you use. The age and pattern adjusted data in the bottom of the printout is not used for this calculation.

Here's an expanded view of the pseudoisopter. Note that the black line drawn diagonally is the longest line that can be drawn through fixation. With 6 degrees between numbers, you can see that the horizontal vector is 18° and the vertical vector is 9°. Using $a^2 + b^2 = c^2$ you can calculate length of the hypotenuse as the square root of $18^2 + 9^2 = \sqrt{405} = 20.12°$. Round to the nearest degree, which is 20°. So this patient qualifies for Social Security Disability under Section 2.03A.

If the line indicating the longest diameter through fixation falls along the horizontal or vertical axis, it could be determined directly, and not require calculating the hypotenuse.

For a more detailed explanation of the above, as well as illustrations and examples, please visit the Social Security Administration's website at: [http://www.ssa.gov/OP_Home/rulings/di/01/SSR2007-01-di-01.html](http://www.ssa.gov/OP_Home/rulings/di/01/SSR2007-01-di-01.html).

Remember, this definition of blindness applies only to disability determination under the Social Security Administration. For other legal blindness definitions, such as the extra exemption for federal income tax, you still have to be 20/200 or worse or have a visual field of 20 degrees or less in the better eye with best correction.

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To access links to previous “CCVIP Pearls” go to www.visioncare.org and click on the CCVIP Logo
Determining Disability and Statutory Blindness – Combining Visual Acuity and Visual Field

CCVIP Tip

Occasionally, a patient will present who may apply for Social Security Disability and who has both visual acuity and visual field loss, but doesn't qualify for SSA disability on visual acuity or visual field alone. Since 2007 it has been possible to combine visual acuity and visual field to determine SSA disability and it is now possible to do this combination two different ways. Unfortunately, these methods will not be welcomed by the mathematically averse.

You may choose one the following two methods to determine Social Security Disability:

**Method #1: Using Static Perimetry (Section 2.04B)**

Since 2013, static perimetry can be combined with visual acuity to get a score that may qualify a patient for SSA disability. To begin, visual acuity is converted to logMAR (log of the minimum angle of resolution). This is done by taking the base 10 log of the inverse of the visual acuity fraction, or by consulting the following chart.

<table>
<thead>
<tr>
<th>Visual Acuity (20/X)</th>
<th>logMAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>20/20</td>
<td>0.00</td>
</tr>
<tr>
<td>20/25</td>
<td>0.10</td>
</tr>
<tr>
<td>20/30</td>
<td>0.18</td>
</tr>
<tr>
<td>20/40</td>
<td>0.30</td>
</tr>
<tr>
<td>20/50</td>
<td>0.40</td>
</tr>
<tr>
<td>20/60</td>
<td>0.48</td>
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<tr>
<td>20/70</td>
<td>0.54</td>
</tr>
<tr>
<td>20/80</td>
<td>0.60</td>
</tr>
<tr>
<td>20/100</td>
<td>0.70</td>
</tr>
</tbody>
</table>

The visual field score is the absolute value of the Mean Deviation of a **30-2 static field** divided by 22. The 30-2 visual field must be performed with the Goldmann III target size and the usual 31.5 apostilbs (10 cd/m²) background illumination. A 24-2 visual field may **not** be used for this particular section of the SSA disability statute.

If the sum of these two scores is **1.00 or more** the patient qualifies.

**Example:** The better eye has visual acuity of 20/70, so expressed as logMAR that's the log of 70/20 = log of 3.5 = 0.54. The Mean Deviation of the 30-2 visual field for that eye is -14.3, so the visual field score is the absolute value of -14.3/22 or 0.65. The total score is the sum, so 0.54 + 0.65 = 1.19, which is ≥1.00, so the patient qualifies.

**Method #2: Using Kinetic Perimetry (Section 2.04A)**

This is also known as "visual efficiency". **Visual acuity efficiency** is determined by the best corrected visual acuity in the better eye and consulting the following chart.
Visual field efficiency is determined by the total of the eight major hemi-meridians of Goldmann or automated kinetic perimetry, using a III4e isopter. Any meridian which has a scotoma between the visual field perimeter and fixation (except for the physiological blind spot) can subtract the scotoma from the meridian score. Finding scotomas within the seeing area is easier with manual Goldmann than with automated kinetic perimetry, but it can be done with some automated kinetic programs.

SSA considers the normal visual field to be a score of 500 when the total of the 8 hemi-meridians is totaled. So, the visual field efficiency score is the total of the 8 hemi-meridians divided by 500.

<table>
<thead>
<tr>
<th>Visual acuity (Snellen)</th>
<th>Visual acuity efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>20/20</td>
<td>100%</td>
</tr>
<tr>
<td>20/25</td>
<td>95%</td>
</tr>
<tr>
<td>20/30</td>
<td>90%</td>
</tr>
<tr>
<td>20/40</td>
<td>85%</td>
</tr>
<tr>
<td>20/50</td>
<td>75%</td>
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<tr>
<td>20/60</td>
<td>70%</td>
</tr>
<tr>
<td>20/70</td>
<td>65%</td>
</tr>
<tr>
<td>20/80</td>
<td>60%</td>
</tr>
<tr>
<td>20/100</td>
<td>50%</td>
</tr>
</tbody>
</table>

Visual acuity efficiency and visual field efficiency scores are converted to a decimal fraction and the product of the two is the visual efficiency. A visual efficiency of 0.20 or less qualifies the patient for disability.

Example: The better eye has best-corrected visual acuity of 20/80, so visual acuity efficiency from the chart is 0.60 in decimal fraction form. The visual field hemi-meridians of that eye are 15, 20, 25, 20, 20, 25, 25 and (30 less a 15 degree scotoma = 15) = 165, so the visual field efficiency is 165/500, or 0.33. Visual efficiency is 0.60 x 0.33 = 0.198, which is less than 0.20, so the patient barely qualifies.

Remember, this definition of disability applies only to disability determination under the Social Security Administration. For other legal blindness definitions, such as the extra exemption for federal income tax, you still have to be 20/200 or worse or have a visual field of 20 degrees or less in the better eye with best correction.

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