# VISUAL DISORDERS

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| 2.00 SPECIAL SENSES AND SPEECH<br><br>A. *Disorders of Vision*<br><br>1. *Causes of impairment.* Diseases or injury of the eyes may produce loss of visual acuity or loss of the peripheral field. Loss of visual acuity results in inability to distinguish detail and prevents reading and fine work. Loss of the peripheral field restricts the ability of an individual to move about freely. The extent of impairment of sight should be determined by visual acuity and peripheral field testing.<br><br>7. *Statutory blindness*. The term "statutory blindness" refers to the degree of visual impairment which defines the term "blindness" in the Social Security Act. Both 2.02 and 2.03A and B denote statutory blindness. | 2.00 SPECIAL SENSES AND SPEECH<br><br>A. <u>How do we evaluate visual disorders?</u><br><br>1. <u>What are visual disorders?</u> Visual disorders are abnormalities of the eye, the optic nerve, the optic tracts, or the brain that may cause a loss of visual acuity or visual fields. A loss of visual acuity limits your ability to distinguish detail, read, or do fine work. A loss of visual fields limits your ability to perceive visual stimuli in the peripheral extent of vision.<br><br>2. <u>How do we define statutory blindness?</u> Statutory blindness is blindness as defined in sections 216(i)(1) and 1614(a)(2) of the Social Security Act (the Act). The Act defines blindness as visual acuity of 20/200 or less in the better eye with the use of a correcting lens. We use your best-corrected visual acuity for distance in the better eye when we determine if this definition is met. The Act also provides that an eye that has a visual field limitation such that the widest diameter of the visual field subtends an angle no greater than 20 degrees is considered as having visual acuity of 20/200 or less. You have statutory blindness only if your visual disorder meets the criteria of 2.02 or 2.03A. You do not have statutory blindness if your visual disorder medically equals the criteria of 2.02 or 2.03A, or if it meets or medically equals 2.03B, 2.03C, or 2.04. If your visual disorder medically equals the criteria of 2.02 or 2.03A, or if it meets or medically equals 2.03B, 2.03C, or 2.04, we will find that you have a disability if your visual disorder also meets the duration requirement. |

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| | 3. <u>What evidence do we need to establish statutory blindness under title XVI?</u> For title XVI, the only evidence we need to establish statutory blindness is evidence showing that your visual acuity in your better eye or your visual field in your better eye meets the criteria in 2.00A2, provided that those measurements are consistent with the other evidence in your case record. We do not need to document the cause of your blindness. Also, there is no duration requirement for statutory blindness under title XVI (see §§416.981 and 416.983).<br><br>4. <u>What evidence do we need to evaluate visual disorders, including those that result in statutory blindness under title II?</u><br><br>a. To evaluate your visual disorder, we usually need a report of an eye examination that includes measurements of the best-corrected visual acuity or the extent of the visual fields, as appropriate. If there is a loss of visual acuity or visual fields, the cause of the loss must be documented. A standard eye examination will usually reveal the cause of any visual acuity loss. An eye examination can also reveal the cause of some types of visual field deficits. If the eye examination does not reveal the cause of the visual loss, we will request the information that was used to establish the presence of the visual disorder.<br><br>b. A cortical visual disorder is a disturbance of the posterior visual pathways or occipital lobes of the brain in which the visual system does not interpret what the eyes are seeing. It may result from such causes as traumatic brain injury, stroke, cardiac arrest, near drowning, a central nervous system infection |

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| | such as meningitis or encephalitis, a tumor, or surgery. It can be temporary or permanent, and the amount of visual loss can vary. It is possible to have a cortical visual disorder and not have any abnormalities observed in a standard eye examination. Therefore, a diagnosis of a cortical visual disorder must be confirmed by documentation of the cause of the brain lesion. If neuroimaging or visual evoked response (VER) testing was performed, we will request a copy of the report or other medical evidence that describes the findings in the report.<br><br>c. If your visual disorder does not satisfy the criteria in 2.02, 2.03, or 2.04, we will also request a description of how your visual disorder impacts your ability to function. |
| 2. *Visual acuity*. Loss of visual acuity may result in impaired distant vision or near vision, or both. However, for you to meet the level of severity described in 2.02 and 2.04, only the remaining visual acuity for distance of the better eye with best correction based on the Snellen test chart measurement may be used. Correction obtained by special visual aids (e.g., contact lenses) will be considered if the individual has the ability to wear such aids. | 5. <u>How do we measure best-corrected visual acuity?</u><br><br>a. <u>Testing for visual acuity.</u> When we need to measure your best-corrected visual acuity, we will use visual acuity testing that was carried out using Snellen methodology or any other testing methodology that is comparable to Snellen methodology.<br><br>b. <u>Determining best-corrected visual acuity.</u><br><br>(i) Best-corrected visual acuity is the optimal visual acuity attainable with the use of a corrective lens. In some instances, this assessment may be performed using a specialized lens; for example, a contact lens. We will use the visual acuity measurements obtained with a specialized lens only if you have demonstrated the ability to use the specialized lens on a sustained basis. However, we will not use visual acuity measurements obtained with telescopic lenses because they significantly reduce |

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| | the visual field. If you have an absent response to VER testing in an eye, we can determine that your best-corrected visual acuity is 20/200 or less in that eye. However, if you have a positive response to VER testing in an eye, we will not use that result to determine your best-corrected visual acuity in that eye. Additionally, we will not use the results of pinhole testing or automated refraction acuity to determine your best-corrected visual acuity.<br><br>(ii) We will use the best-corrected visual acuity for distance in your better eye when we determine whether your loss of visual acuity satisfies the criteria in 2.02. The best-corrected visual acuity for distance is usually measured by determining what you can see from 20 feet. If your visual acuity is measured for a distance other than 20 feet, we will convert it to a 20-foot measurement. For example, if your visual acuity is measured at 10 feet and is reported as 10/40, we will convert this to 20/80. |
| 3. *Field of vision.* Impairment of peripheral vision may result if there is contraction of the visual fields. The contraction may be either symmetrical or irregular. The extent of the remaining peripheral visual field will be determined by usual perimetric methods at a distance of 330 mm. under illumination of not less than 7-foot candles. For the phakic eye (the eye with a lens), a 3 mm. white disc target will be used, and for the aphakic eye (the eye without the lens), a 6 mm. white disc target will be used. In neither instance should corrective spectacle lenses be worn during the examination but if they have been used, this fact must be stated.<br><br>Measurements obtained on comparable perimetric devices may be | 6. <u>How do we measure visual fields?</u><br><br>a. <u>Testing for visual fields.</u><br><br>(i) We generally need visual field testing when you have a visual disorder that could result in visual field loss, such as glaucoma, retinitis pigmentosa, or optic neuropathy, or when you display behaviors that suggest a visual field loss.<br><br>(ii) When we need to measure the extent of your visual field loss, we will use visual field measurements obtained with an automated static threshold perimetry test performed on a perimeter, like the Humphrey Field Analyzer, that satisfies all of |

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| used; this does not include the use of tangent screen measurements. For measurements obtained using the Goldmann perimeter, the object size designation III and the illumination designation 4 should be used for the phakic eye, and the object size IV and illumination designation 4 for the aphakic eye.<br><br>Field measurements must be accompanied by notated field charts, a description of the type and size of the target, and the test distance. Tangent screen visual fields are not acceptable as a measurement of peripheral field loss.<br><br>Where the loss is predominately in the lower visual fields, a system such as the weighted grid scale for perimetric fields described by B. Esterman (see Grid for Scoring Visual Fields, II. Perimeter, *Archives of Ophthalmology*, 79:400, 1968) may be used for determining whether the visual field loss is comparable to that described in table 2. | the following requirements:<br>A. The perimeter must use optical projection to generate the test stimuli.<br>B. The perimeter must have an internal normative database for automatically comparing your performance with that of the general population.<br>C. The perimeter must have a statistical analysis package that is able to calculate visual field indices, particularly mean deviation.<br>D. The perimeter must demonstrate the ability to correctly detect visual field loss and correctly identify normal visual fields.<br>E. The perimeter must demonstrate good test-retest reliability.<br>F. The perimeter must have undergone clinical validation studies by three or more independent laboratories with results published in peer-reviewed ophthalmic journals.<br><br>(iii) The test must use a white size III Goldmann stimulus and a 31.5 apostilb (10 cd/$m^2$) white background. The stimuli locations must be no more than 6 degrees apart horizontally or vertically. Measurements must be reported on standard charts and include a description of the size and intensity of the test stimulus.<br><br>(iv) To determine statutory blindness based on visual field loss (2.03A), we need a test that measures the central 24 to 30 degrees of the visual field; that is, the area measuring 24 to 30 degrees from the point of fixation. Acceptable tests include the Humphrey 30-2 or 24-2 tests.<br><br>(v) The criterion in 2.03B is based on the use of a test performed on a Humphrey Field Analyzer that measures the |

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| | central 30 degrees of the visual field. We can also use comparable results from other acceptable perimeters, for example, a mean defect of 22 on an acceptable Octopus test, to determine that the criterion in 2.03B is met. We cannot use tests that do not measure the central 30 degrees of the visual field, such as the Humphrey 24-2 test, to determine if your impairment meets or medically equals 2.03B.<br><br>(vi) We measure the extent of visual field loss by determining the portion of the visual field in which you can see a white III4e stimulus. The "III" refers to the standard Goldmann test stimulus size III, and the "4e" refers to the standard Goldmann intensity filters used to determine the intensity of the stimulus.<br><br>(vii) In automated static threshold perimetry, the intensity of the stimulus varies. The intensity of the stimulus is expressed in decibels (dB). We need to determine the dB level that corresponds to a 4e intensity for the particular perimeter being used. We will then use the dB printout to determine which points would be seen at a 4e intensity level. For example, in Humphrey Field Analyzers, a 10 dB stimulus is equivalent to a 4e stimulus. A dB level that is higher than 10 represents a dimmer stimulus, while a dB level that is lower than 10 represents a brighter stimulus. Therefore, for tests performed on Humphrey Field Analyzers, any point seen at 10 dB or higher is a point that would be seen with a 4e stimulus.<br><br>(viii) We can also use visual field measurements obtained using kinetic perimetry, such as the Humphrey "SSA Test Kinetic" or Goldmann perimetry, instead of automated static |

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| | threshold perimetry. The kinetic test must use a white III4e stimulus projected on a white 31.5 apostilb (10 cd/$m^2$) background. In automated kinetic tests, such as the Humphrey "SSA Test Kinetic," testing along a meridian stops when you see the stimulus. Because of this, automated kinetic testing does not detect limitations in the central visual field. If your visual disorder has progressed to the point at which it is likely to result in a significant limitation in the central visual field, such as a scotoma (see 2.00A8c), we will not use automated kinetic perimetry to evaluate your visual field loss. Instead, we will assess your visual field loss using automated static threshold perimetry or manual kinetic perimetry.<br><br>(ix) We will not use the results of visual field screening tests, such as confrontation tests, tangent screen tests, or automated static screening tests, to determine that your impairment meets or medically equals a listing or to evaluate your residual functional capacity. However, we can consider normal results from visual field screening tests to determine whether your visual disorder is severe when these test results are consistent with the other evidence in your case record. (See §§404.1520(c), 404.1521, 416.920(c), and 416.921.) We will not consider normal test results to be consistent with the other evidence if either of the following applies:<br>A. The clinical findings indicate that your visual disorder has progressed to the point that it is likely to cause visual field loss, or<br>B. You have a history of an operative procedure for retinal detachment.<br><br>b. Use of corrective lenses. You must not wear eyeglasses |

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| | during the visual field examination because they limit your field of vision. Contact lenses or perimetric lenses may be used to correct visual acuity during the visual field examination in order to obtain the most accurate visual field measurements. For this single purpose, you do not need to demonstrate that you have the ability to use the contact or perimetric lenses on a sustained basis. |
| 5. *Visual efficiency*. Loss of visual efficiency may be caused by disease or injury resulting in reduction of visual acuity or visual field. The visual efficiency of one eye is the product of the percentage of visual acuity efficiency and the percentage of visual field efficiency. (See tables no. 1 and 2, following 2.09.) | 7. How do we calculate visual efficiency?<br><br>a. Visual acuity efficiency. We use the percentage shown in Table 1 that corresponds to the best-corrected visual acuity for distance in your better eye.<br><br>b. Visual field efficiency. We use kinetic perimetry to calculate visual field efficiency by adding the number of degrees seen along the eight principal meridians in your better eye and dividing by 500. (See Table 2.)<br><br>c. Visual efficiency. We calculate the percent of visual efficiency by multiplying the visual acuity efficiency by the visual field efficiency and converting the decimal to a percentage. For example, if your visual acuity efficiency is 75 percent and your visual field efficiency is 64 percent, we will multiply 0.75 x 0.64 to determine that your visual efficiency is 0.48, or 48 percent. |
| 6. *Special situations.* Aphakia represents a visual handicap in addition to the loss of visual acuity. The term monocular aphakia would apply to an individual who has had the lens removed from one eye, and who still retains the lens in his other eye, or to an individual who has only one eye which is | 8. How do we evaluate specific visual problems?<br><br>a. Statutory blindness. 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 |

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| aphakic. The term binocular aphakia would apply to an individual who has had both lenses removed. In cases of binocular aphakia, the efficiency of the better eye will be accepted as 75 percent of its value. In cases of monocular aphakia, where the better eye is aphakic, the visual efficiency will be accepted as 50 percent of the value. (If an individual has binocular aphakia, and the visual acuity in the poorer eye can be corrected only to 20/200, or less, the visual efficiency of the better eye will be accepted as 50 percent of its value.) | Bailey-Lovie or the Early Treatment Diabetic Retinopathy Study (ETDRS), do have lines that measure visual acuity between 20/100 and 20/200. If your visual acuity is measured with one of these newer charts, and you cannot read any of the letters on the 20/100 line, we will determine that you have statutory blindness based on a visual acuity of 20/200 or less. For example, if your best-corrected visual acuity for distance in the better eye was determined to be 20/160 using an ETDRS chart, we will find that you have statutory blindness. Regardless of the type of test chart used, you do not have statutory blindness if you can read at least one letter on the 20/100 line. For example, if your best-corrected visual acuity for distance in the better eye was determined to be 20/125+1 using an ETDRS chart, we will find that you do not have statutory blindness as you are able to read one letter on the 20/100 line.<br><br>b. Blepharospasm. This movement disorder is characterized by repetitive, bilateral, involuntary closure of the eyelids. If you have this disorder, you may have measurable visual acuities and visual fields that do not satisfy the criteria of 2.02 or 2.03. Blepharospasm generally responds to therapy. However, if therapy is not effective, we will consider how the involuntary closure of your eyelids affects your ability to maintain visual functioning over time.<br><br>c. Scotoma. A scotoma is a non-seeing area in the visual field surrounded by a seeing area. When we measure the visual field, we subtract the length of any scotoma, other than the normal blind spot, from the overall length of any diameter on which it falls. |

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| Ocular symptoms of systemic disease may or may not produce a disabling visual impairment. These manifestations should be evaluated as part of the underlying disease entity by reference to the particular body system involved. | * * * * *<br><br>C. <u>How do we evaluate impairments that do not meet one of the special senses and speech listings?</u><br><br>1. These listings are only examples of common special senses and speech disorders that we consider severe enough to prevent an individual from doing any gainful activity. If your impairment(s) does not meet the criteria of any of these listings, we must also consider whether you have an impairment(s) that satisfies the criteria of a listing in another body system.<br><br>2. If you have a medically determinable impairment(s) that does not meet a listing, we will determine whether the impairment(s) medically equals a listing. (See §§404.1526 and 416.926.) If you have an impairment(s) that does not meet or medically equal a listing, you may or may not have the residual functional capacity to engage in substantial gainful activity. Therefore, we proceed to the fourth, and if necessary, the fifth steps of the sequential evaluation process in §§404.1520 and 416.920. When we decide whether you continue to be disabled, we use the rules in §§404.1594, 416.994, or 416.994a as appropriate. |
| 4. *Muscle function*. Paralysis of the third cranial nerve producing ptosis, paralysis of accommodation, and dilation and immobility of the pupil may cause significant visual impairment. When all the muscle of the eye are paralyzed including the iris and ciliary body (total ophthalmoplegia), the condition is considered a severe | |

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| impairment provided it is bilateral. A finding of severe impairment based primarily on impaired muscle function must be supported by a report of an actual measurement of ocular motility. | |
| 2.01 Category of Impairments, Special Senses and Speech | 2.01 Category of Impairments, Special Senses and Speech |
| 2.02 Impairment of visual acuity. Remaining vision in the better eye after best correction is 20/200 or less. | 2.02 Loss of visual acuity. Remaining vision in the better eye after best correction is 20/200 or less. |
| 2.03 Contraction of peripheral visual fields in the better eye.<br>A. To 10° or less from the point of fixation; or<br>B. So the widest diameter subtends an angle no greater than 20°; or<br>C. To 20 percent or less visual field efficiency. | 2.03 Contraction of the visual field in the better eye, with:<br><br>A. The widest diameter subtending an angle around the point of fixation no greater than 20 degrees;<br><br>OR<br><br>B. A mean deviation of -22 or worse, determined by automated static threshold perimetry as described in 2.00A6a(v);<br><br>OR<br><br>C. A visual field efficiency of 20 percent or less as determined by kinetic perimetry (see 2.00A7b). |
| 2.04 Loss of visual efficiency. The visual efficiency of the better eye after best correction is 20 percent or less. (The percent of remaining visual efficiency is equal to the product of the percent | 2.04 Loss of visual efficiency. Visual efficiency of the better eye of 20 percent or less after best correction (see 2.00A7c). |

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of remaining visual acuity efficiency and the percent of remaining visual field efficiency.)

2.05 [Reserved]

Table No. 1--Percentage of Visual Acuity Efficiency Corresponding to Visual Acuity Notations for Distance in the Phakic and Aphakic Eye (Better Eye)

| Snellen | | Percent visual acuity efficiency | | |
|---|---|---|---|---|
| English | Metric | Phakic [1] | Aphakic monocular[2] | Aphakic binocular [3] |
| 20/16 | 6/5 | 100 | 50 | 75 |
| 20/20 | 6/6 | 100 | 50 | 75 |
| 20/25 | 6/7.5 | 95 | 47 | 71 |
| 20/32 | 6/10 | 90 | 45 | 67 |
| 20/40 | 6/12 | 85 | 42 | 64 |
| 20/50 | 6/15 | 75 | 37 | 56 |
| 20/64 | 6/20 | 65 | 32 | 49 |
| 20/80 | 6/24 | 60 | 30 | 45 |
| 20/100 | 6/30 | 50 | 25 | 37 |
| 20/125 | 6/38 | 40 | 20 | 30 |
| 20/160 | 6/48 | 30 | ..... | 22 |
| 20/200 | 6/60 | 20 | ..... | ..... |

Column and Use.

[1] Phakic.--1. A lens is present in both eyes. 2. A lens is present in the better eye and absent in the poorer eye. 3. A lens is present in one eye and the other eye is enucleated.

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Table 1.--Percentage of Visual Acuity Efficiency Corresponding to the Best-Corrected Visual Acuity Measurement for Distance in the Better Eye

| **Snellen** | | **Percent visual acuity efficiency** |
|---|---|---|
| **English** | **Metric** | |
| 20/16 | 6/5 | 100 |
| 20/20 | 6/6 | 100 |
| 20/25 | 6/7.5 | 95 |
| 20/30 | 6/9 | 90 |
| 20/40 | 6/12 | 85 |
| 20/50 | 6/15 | 75 |
| 20/60 | 6/18 | 70 |
| 20/70 | 6/21 | 65 |
| 20/80 | 6/24 | 60 |
| 20/100 | 6/30 | 50 |

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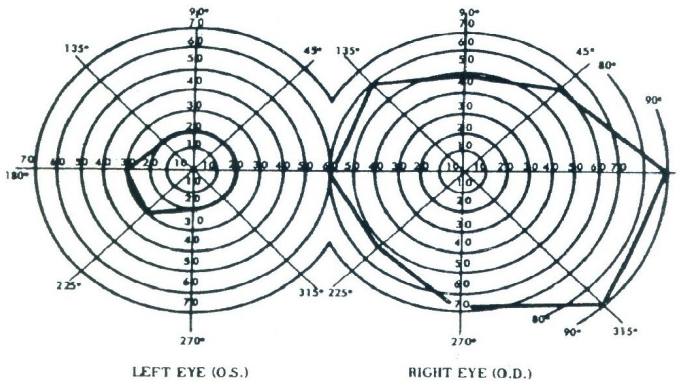
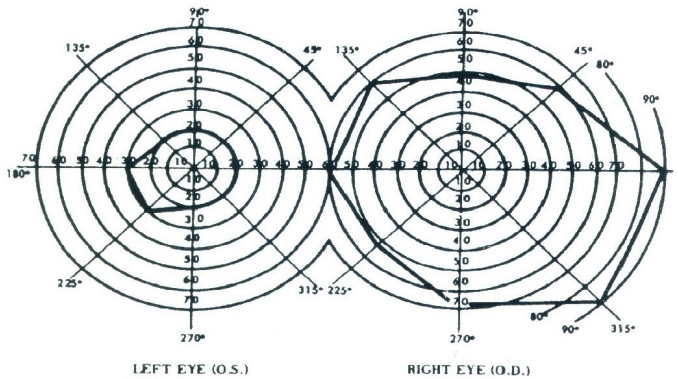
| [2] Monocular.--1. A lens is absent in the better eye and present in the poorer eye. 2. The lenses are absent in both eyes; however, the visual acuity in the poorer eye after best correction in 20/200 or less. 3. A lens is absent from one eye and the other eye is enucleated.<br>[3] Binocular.--1. The lenses are absent from both eyes and the visual acuity in the poorer eye after best correction is greater than 20/200. | |
| Table No. 2--Chart of Visual Field Showing Extent of Normal Field and Method of Computing Percent of Visual Field Efficiency<br>  <br><br>1. Diagram of right eye illustrates extent of normal visual field as tested on standard perimeter at 3/330 (3 mm. white disc at a distance of 330 mm.) under 7 foot-candles illumination. The sum | Table 2.--Chart of Visual Fields<br>  <br><br>1. The diagram of the right eye illustrates the extent of a normal visual field as measured with a III4e stimulus. The sum of the eight principal meridians of this field is 500 degrees. |

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| of the eight principal meridians of this field total 500[deg].<br>2. The percent of visual field efficiency is obtained by adding the number of degrees of the eight principal meridians of the contracted field and dividing by 500. Diagram of left eye illustrates visual field contracted to 30[deg] in the temporal and down and out meridians and to 20[deg] in the remaining six meridians. The percent of visual field efficiency of this field is: 6x20+2x30 =180/500=0.36 or 36 percent remaining visual field efficiency, or 64 percent loss. | 2. The diagram of the left eye illustrates a visual field contracted to 30 degrees in two meridians and to 20 degrees in the remaining six meridians. The percent of visual field efficiency of this field is: (2 x 30) + (6 x 20) = 180 ÷ 500 = 0.36 or 36 percent visual field efficiency. |