Disability Evaluation Under Social Security

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Listing of Impairments – Part B

The following sections provide medical criteria for the evaluation of impairments of children under age 18 (where criteria in Part A do not give appropriate consideration to the particular disease process in childhood)

This electronic version contains the revised Musculoskeletal System listings and related criteria that became effective February 19, 2002, as well as a number of technical revisions to the listings that became effective on May 24, 2002.

100.00 Growth Impairment

A. *Impairment of growth* may be disabling in itself or it may be an indicator of the severity of the impairment due to a specific disease process. Determinations of growth impairment should be based upon the comparison of current height with at least three previous determinations, including length at birth, if available, Heights (or lengths) should be plotted on a standard growth chart, such as derived from the National Center for Health Statistics: NCHS Growth Charts. Height should be measured without shoes. Body weight corresponding to the ages represented by the heights should be furnished. The adult heights of the child's natural parents and the heights and ages of siblings should also be furnished. This will provide a basis upon which to identify those children whose short stature represents a familial characteristic rather than a result of disease. This is particularly true for adjudication under 100.02B.

B. *Bone age determinations* should include a full descriptive report of medically acceptable imaging specifically obtained to determine bone age and must cite the standardization method used. Where appropriate medically acceptable imaging must be obtained currently as a basis for adjudication under 100.03, views or scans of the left hand and wrist should be ordered. In addition appropriate medically acceptable imaging of the knee and ankle should be obtained when cessation of growth is being evaluated in an older child at, or past, puberty. Medically acceptable imaging includes, but is not limited to, x-ray imaging, computerized axial tomography (CAT scan) or magnetic resonance imaging (MRI), with or without contrast material, myelography, and radionuclear bone scans. “Appropriate” means that the technique used is the proper one to support the evaluation and diagnosis of the impairment.

C. The criteria in this section are applicable until closure of the major epiphyses. The cessation of significant increase in height at that point would prevent the application of these criteria.

100.01 Category of Impairments, Growth

100.02 ***Growth impairment****,* considered to be related to an additional specific medically determinable impairment, and one of the following:

A. Fall of greater than 15 percentiles in height which is sustained; or

B. Fall to, or persistence of, height below the third percentile.

100.03 ***Growth impairment***, not identified as being related to an additional, specific medically determinable impairment. With:

A. Fall of greater than 25 percentiles in height which is sustained; and

B. Bone age greater than two standard deviations (2 SD) below the mean for chronological age (see 100.00B).

101.00 Musculoskeletal System

A. Disorders of the musculoskeletal system may result from hereditary, congenital, or acquired pathologic processes. Impairments may result from infectious, inflammatory, or degenerative processes, traumatic or developmental events, or neoplastic, vascular, or toxic/metabolic diseases.

B. Loss of function.

1. General. Under this section, loss of function may be due to bone or joint deformity or destruction from any cause; miscellaneous disorders of the spine with or without radiculopathy or other neurological deficits; amputation; or fractures or soft tissue injuries, including burns, requiring prolonged periods of immobility or convalescence. For inflammatory arthritides that result in loss of function because of inflammatory peripheral joint or axial arthritis or sequelae, or because of extra-articular features, see 114.00E. Impairments with neurological causes are to be evaluated under 111.00ff.

2. How we define loss of function in these listings.

a. General. Regardless of the cause(s) of a musculoskeletal impairment, functional loss for purposes of these listings is defined as the inability to ambulate effectively on a sustained basis for any reason, including pain associated with the underlying musculoskeletal impairment, or the inability to perform fine and gross movements effectively on a sustained basis for any reason, including pain associated with the underlying musculoskeletal impairment. The inability to ambulate effectively or the inability to perform fine and gross movements effectively must have lasted, or be expected to last, for at least 12 months. For the purposes of these criteria, consideration of the ability to perform these activities must be from a physical standpoint alone. When there is an inability to perform these activities due to a mental impairment, the criteria in 112.00ff are to be used. We will determine whether a child can ambulate effectively or can perform fine and gross movements effectively based on the medical and other evidence in the case record, generally without developing additional evidence about the child’s ability to perform the specific activities listed as examples in 101.00B2b(2) and (3) and 101.00B2c(2) and (3).

b. What we mean by inability to ambulate effectively.

(1) Definition. Inability to ambulate effectively means an extreme limitation of the ability to walk; i.e., an impairment that interferes very seriously with the child's ability to independently initiate, sustain, or complete activities. Ineffective ambulation is defined generally as having insufficient lower extremity functioning (see 101.00J) to permit independent ambulation without the use of a hand-held assistive device(s) that limits the functioning of both upper extremities.
(Listing 101.05C is an exception to this general definition because the child has the use of only one upper extremity due to amputation of a hand.)

(2) How we assess inability to ambulate effectively for children too young to be expected to walk independently. For children who are too young to be expected to walk independently, consideration of function must be based on assessment of limitations in the ability to perform comparable age-appropriate activities with the lower extremities, given normal developmental expectations. For such children, an extreme level of limitation means skills or performance at no greater than one-half of age-appropriate expectations based on an overall developmental assessment rather than on one or two isolated skills.

(3) How we assess inability to ambulate effectively for older children. Older children, who would be expected to be able to walk when compared to other children the same age who do not have impairments, must be capable of sustaining a reasonable walking pace over a sufficient distance to be able to carry out age-appropriate activities. They must have the ability to travel age-appropriately without extraordinary assistance to and from school or a place of employment. Therefore, examples of ineffective ambulation for older children include, but are not limited to, the inability to walk without the use of a walker, two crutches or two canes, the

inability to walk a block at a reasonable pace on rough or uneven surfaces, the inability to use standard public transportation, the inability to carry out age-appropriate school activities independently, and the inability to climb a few steps at a reasonable pace with the use of a single hand rail. The ability to walk independently about the child's home or a short distance at school without the use of assistive devices does not, in and of itself, constitute effective ambulation.

c. What we mean by inability to perform fine and gross movements effectively.

(1) Definition. Inability to perform fine and gross movements effectively means an extreme loss of function of both upper extremities; i.e., an impairment that interferes very seriously with the child's ability to independently initiate, sustain, or complete activities. To use their upper extremities effectively, a child must be capable of sustaining such functions as reaching, pushing, pulling, grasping, and fingering in an age-appropriate manner to be able to carry out age-appropriate activities.

(2) How we assess inability to perform fine and gross movements in very young children. For very young children, the consideration is limitations in the ability to perform comparable age-appropriate activities involving the upper extremities given normal developmental expectations. Determinations of extreme limitation in such children should be made by comparison with the limitations for persistent motor dysfunction for infants and young children described in 110.07A.

(3) How we assess inability to perform fine and gross movements in older children. For older children, examples of inability to perform fine and gross movements effectively include, but are not limited to, the inability to prepare a simple meal and feed oneself, the inability to take care of personal hygiene, or the inability to sort and handle papers or files, depending upon which activities are age-appropriate.

d. Pain or other symptoms. Pain or other symptoms may be an important factor contributing to functional loss. In order for pain or other symptoms to be found to affect a child's ability to function in an age-appropriate manner or to perform basic work activities, medical signs or laboratory findings must show the existence of a medically determinable impairment(s) that could reasonably be expected to produce the pain or other symptoms. The musculoskeletal listings that include pain or other symptoms among their criteria also include criteria for limitations in functioning as a result of the listed impairment, including limitations caused by pain. It is, therefore, important to evaluate the intensity and persistence of such pain or other symptoms carefully in order to determine their impact on the child's functioning under these listings. See also §§ 404.1525(f) and 404.1529 of this part, and §§ 416.925(f) and 416.929 of part 416 of this chapter.

C. Diagnosis and evaluation.

1. General. Diagnosis and evaluation of musculoskeletal impairments should be supported, as applicable, by detailed descriptions of the joints, including ranges of motion, condition of the musculature (e.g., weakness, atrophy), sensory or reflex changes, circulatory deficits, and laboratory findings, including findings on x-ray or other appropriate medically acceptable imaging. Medically acceptable imaging includes, but is not limited to, x-ray imaging, computerized axial tomography (CAT scan) or magnetic resonance imaging (MRI), with or without contrast material, myelography, and radionuclear bone scans. "Appropriate" means that the technique used is the proper one to support the evaluation and diagnosis of the impairment.

2. Purchase of certain medically acceptable imaging. While any appropriate medically acceptable imaging is useful in establishing the diagnosis of musculoskeletal impairments, some tests, such as CAT scans and MRIs, are quite expensive, and we will not routinely purchase them. Some, such as myelograms, are invasive and may involve significant risk. We will not order such tests. However, when the results of any of these tests are part of the existing evidence in the case record we will consider them together with the other relevant evidence.

3. Consideration of electrodiagnostic procedures. Electrodiagnostic procedures may be useful in establishing the clinical diagnosis, but do not constitute alternative criteria to the requirements of 101.04.

D. The physical examination must include a detailed description of the rheumatological, orthopedic, neurological, and other findings appropriate to the specific impairment being evaluated. These physical findings must be determined on the basis of objective observation during the examination and not simply a report of the child's allegation; e.g., "He says his leg is weak, numb." Alternative testing methods should be used to verify the abnormal findings; e.g., a seated straight-leg raising test in addition to a supine straight-leg raising test. Because abnormal physical findings may be intermittent, their presence over a period of time must be established by a record of ongoing management and evaluation. Care must be taken to ascertain that the reported examination findings are consistent with the child's age and activities.

E. Examination of the spine.

1. General. Examination of the spine should include a detailed description of gait, range of motion of the spine given quantitatively in degrees from the vertical position (zero degrees) or, for straight-leg raising from the sitting and supine position (zero degrees), any other appropriate tension signs, motor and sensory abnormalities, muscle spasm, when present, and deep tendon reflexes. Observations of the child during the examination should be reported; e.g., how he or she gets on and off the examination table. Inability to walk on the heels or toes, to squat, or to arise from a squatting position, when appropriate, may be considered evidence of significant motor loss. However, a report of atrophy is not acceptable as evidence of significant motor loss without circumferential measurements of both thighs and lower legs, or both upper and lower arms, as appropriate, at a stated point above and below the knee or elbow given in inches or centimeters. Additionally, a report of atrophy should be accompanied by measurement of the strength of the muscle(s) in question generally based on a grading system of 0 to 5, with 0 being complete loss of strength and 5 being maximum strength. A specific description of atrophy of hand muscles is acceptable without measurements of atrophy but should include measurements of grip and pinch strength. However, because of the unreliability of such measurement in younger children, these data are not applicable to children under 5 years of age.

2. When neurological abnormalities persist. Neurological abnormalities may not completely subside after treatment or with the passage of time. Therefore, residual neurological abnormalities that persist after it has been determined clinically or by direct surgical or other observation that the ongoing or progressive condition is no longer present will not satisfy the required findings in 101.04. More serious neurological deficits (paraparesis, paraplegia) are to be evaluated under the criteria in 111.00ff.

F. Major joints refers to the major peripheral joints, which are the hip, knee, shoulder, elbow, wrist-hand, and ankle-foot, as opposed to other peripheral joints (e.g., the joints of the hand or

forefoot) or axial joints (i.e., the joints of the spine.) The wrist and hand are considered together as one major joint, as are the ankle and foot. Since only the ankle joint, which consists of the juncture of the bones of the lower leg (tibia and fibula) with the hindfoot (tarsal bones), but not the forefoot, is crucial to weight bearing, the ankle and foot are considered separately in evaluating weight bearing.

G. Measurements of joint motion are based on the techniques described in the chapter on the extremities, spine, and pelvis in the current edition of the "Guides to the Evaluation of Permanent Impairment" published by the American Medical Association.

H. Documentation.

1. General. Musculoskeletal impairments frequently improve with time or respond to treatment. Therefore, a longitudinal clinical record is generally important for the assessment of severity and expected duration of an impairment unless the child is a newborn or the claim can be decided favorably on the basis of the current evidence.

2. Documentation of medically prescribed treatment and response. Many children, especially those who have listing-level impairments, will have received the benefit of medically prescribed treatment. Whenever evidence of such treatment is available it must be considered.

3. When there is no record of ongoing treatment. Some children will not have received ongoing treatment or have an ongoing relationship with the medical community despite the existence of a severe impairment(s). In such cases, evaluation will be made on the basis of the current objective medical evidence and other available evidence, taking into consideration the child's medical history, symptoms, and medical source opinions. Even though a child who does not receive treatment may not be able to show an impairment that meets the criteria of one of the musculoskeletal listings, the child may have an impairment(s) that is either medically or, in the case of a claim for benefits under part 416 of this chapter, functionally equivalent in severity to one of the listed impairments.

4. Evaluation when the criteria of a musculoskeletal listing are not met. These listings are only examples of common musculoskeletal disorders that are severe enough to find a child disabled. Therefore, in any case in which a child has a medically determinable impairment that is not listed, an impairment that does not meet the requirements of a listing, or a combination of impairments no one of which meets the requirements of a listing, we will consider whether the child's impairment(s) is medically or, in the case of a claim for benefits under part 416 of this chapter, functionally equivalent in severity to the criteria of a listing. (See §§ 404.1526, 416.926, and 416.926a.) Individuals with claims for benefits under part 404, who have an impairment(s) with a level of severity that does not meet or equal the criteria of the musculoskeletal listings may or may not have the RFC that would enable them to engage in substantial gainful activity. Evaluation of the impairment(s) of these individuals should proceed through the final steps of the sequential evaluation process in § 404.1520 (or, as appropriate, the steps in the medical improvement review standard in § 404.1594).

I. Effects of treatment.

1. General. Treatments for musculoskeletal disorders may have beneficial effects or adverse side effects. Therefore, medical treatment (including surgical treatment) must be considered in terms of its effectiveness in ameliorating the signs, symptoms, and laboratory abnormalities of the disorder, and in terms of any side effects that may further limit the child.

2. Response to treatment. Response to treatment and adverse consequences of treatment may vary widely. For example, a pain medication may relieve a child's pain completely, partially, or not at all. It may also result in adverse effects, e.g., drowsiness, dizziness, or disorientation, that compromise the child's ability to function. Therefore, each case must be considered on an individual basis, and include consideration of the effects of treatment on the child's ability to function.

3. Documentation. A specific description of the drugs or treatment given (including surgery), dosage, frequency of administration, and a description of the complications or response to treatment should be obtained. The effects of treatment may be temporary or long-term. As such, the finding regarding the impact of treatment must be based on a sufficient period of treatment to permit proper consideration or judgment about future functioning.

J. Orthotic, prosthetic, or assistive devices.

1. General. Consistent with clinical practice, children with musculoskeletal impairments may be examined with and without the use of any orthotic, prosthetic, or assistive devices as explained in this section.

2. Orthotic devices. Examination should be with the orthotic device in place and should include an evaluation of the child's maximum ability to function effectively with the orthosis. It is unnecessary to routinely evaluate the child's ability to function without the orthosis in place. If the child has difficulty with, or is unable to use, the orthotic device, the medical basis for the difficulty should be documented. In such cases, if the impairment involves a lower extremity or extremities, the examination should include information on the child's ability to ambulate effectively without the device in place unless contraindicated by the medical judgment of a physician who has treated or examined the child.

3. Prosthetic devices. Examination should be with the prosthetic device in place. In amputations involving a lower extremity or extremities, it is unnecessary to evaluate the child's ability to walk without the prosthesis in place. However, the child's medical ability to use a prosthesis to ambulate effectively, as defined in 101.00B2b, should be evaluated. The condition of the stump should be evaluated without the prosthesis in place.

4. Hand-held assistive devices. When a child with an impairment involving a lower extremity or extremities uses a hand-held assistive device, such as a cane, crutch or walker, examination should be with and without the use of the assistive device unless contraindicated by the medical judgment of a physician who has treated or examined the child. The child's ability to ambulate with and without the device provides information as to whether, or the extent to which, the child is able to ambulate without assistance. The medical basis for the use of any assistive device (e.g., instability, weakness) should be documented. The requirement to use a hand-held assistive device may also impact on the child's functional capacity by virtue of the fact that one or both upper extremities are not available for such activities as lifting, carrying, pushing, and pulling.

K. Disorders of the spine, listed in 101.04, result in limitations because of distortion of the bony and ligamentous architecture of the spine and associated impingement on nerve roots (including the cauda equina) or spinal cord. Such impingement on nerve tissue may result from a herniated nucleus pulposus or other miscellaneous conditions. Neurological abnormalities

resulting from these disorders are to be evaluated by referral to the neurological listings in 111.00ff, as appropriate. (See also 101.00B and E.)

1. Herniated nucleus pulposus is a disorder frequently associated with the impingement of a nerve root, but occurs infrequently in children. Nerve root compression results in a specific neuro-anatomic distribution of symptoms and signs depending upon the nerve root(s) compromised.

2. Other miscellaneous conditions that may cause weakness of the lower extremities, sensory changes, areflexia, trophic ulceration, bladder or bowel incontinence, and that should be evaluated under 101.04 include, but are not limited to, lysosomal disorders, metabolic disorders, vertebral osteomyelitis, vertebral fractures and achondroplasia. Disorders such as spinal dysrhaphism, (e.g., spina bifida) diastematomyelia, and tethered cord syndrome may also cause such abnormalities. In these cases, there may be gait difficulty and deformity of the lower extremities based on neurological abnormalities, and the neurological effects are to be evaluated under the criteria in 111.00ff.

L. Abnormal curvatures of the spine. Abnormal curvatures of the spine (specifically, scoliosis, kyphosis and kyphoscoliosis) can result in impaired ambulation, but may also adversely affect functioning in body systems other than the musculoskeletal system. For example, a child's ability to breathe may be affected; there may be cardiac difficulties (e.g., impaired myocardial function); or there may be disfigurement resulting in withdrawal or isolation. When there is impaired ambulation, evaluation of equivalence may be made by reference to 114.09A. When the abnormal curvature of the spine results in symptoms related to fixation of the dorsolumbar or cervical spine, evaluation of equivalence may be made by reference to 114.09B. When there is respiratory or cardiac involvement or an associated mental disorder, evaluation may be made under 103.00ff, 104.00ff, or 112.00ff, as appropriate. Other consequences should be evaluated according to the listing for the affected body system.

M. Under continuing surgical management, as used in 101.07 and 101.08, refers to surgical procedures and any other associated treatments related to the efforts directed toward the salvage or restoration of functional use of the affected part. It may include such factors as post-surgical procedures, surgical complications, infections, or other medical complications, related illnesses, or related treatments that delay the child's attainment of maximum benefit from therapy.

N. After maximum benefit from therapy has been achieved in situations involving fractures of an upper extremity (101.07), or soft tissue injuries (101.08), i.e., there have been no significant changes in physical findings or on appropriate medically acceptable imaging for any 6-month period after the last definitive surgical procedure or other medical intervention, evaluation must be made on the basis of the demonstrable residuals, if any. A finding that 101.07 or 101.08 is met must be based on a consideration of the symptoms, signs, and laboratory findings associated with recent or anticipated surgical procedures and the resulting recuperative periods, including any related medical complications, such as infections, illnesses, and therapies which impede or delay the efforts toward restoration of function. Generally, when there has been no surgical or medical intervention for 6 months after the last definitive surgical procedure, it can be concluded that maximum therapeutic benefit has been reached. Evaluation at this point must be made on the basis of the demonstrable residual limitations, if any, considering the child's impairment-related symptoms, signs, and laboratory findings, any residual symptoms, signs, and laboratory findings associated with such surgeries, complications, and recuperative periods, and other relevant evidence.

O. Major function of the face and head, for purposes of listing 101.08, relates to impact on any or all of the activities involving vision, hearing, speech, mastication, and the initiation of the digestive process.

P. When surgical procedures have been performed, documentation should include a copy of the operative notes and available pathology reports.

101.01 Category of Impairments, Musculoskeletal

101.02 ***Major dysfunction of a joint(s) (due to any cause):*** Characterized by gross anatomical deformity (e.g., subluxation, contracture, bony or fibrous ankylosis, instability) and chronic joint pain and stiffness with signs of limitation of motion or other abnormal motion of the affected joint(s), and findings on appropriate medically acceptable imaging of joint space narrowing, bony destruction, or ankylosis of the affected joint(s). With:

A. Involvement of one major peripheral weight-bearing joint (i.e., hip, knee, or ankle), resulting in inability to ambulate effectively, as defined in 101.00B2b;

OR

B. Involvement of one major peripheral joint in each upper extremity (i.e., shoulder, elbow, or wrist-hand), resulting in inability to perform fine and gross movements effectively, as defined in 101.00B2c.

101.03 ***Reconstructive surgery or surgical arthrodesis of a major weight-bearing joint***, with inability to ambulate effectively, as defined in 101.00B2b, and return to effective ambulation did not occur, or is not expected to occur, within 12 months of onset.

101.04 ***Disorders of the spine*** (e.g., lysosomal disorders, metabolic disorders, vertebral osteomyelitis, vertebral fracture, achondroplasia) resulting in compromise of a nerve root (including the cauda equina) or the spinal cord, with evidence of nerve root compression characterized by neuro-anatomic distribution of pain, limitation of motion of the spine, motor loss (atrophy with associated muscle weakness or muscle weakness) accompanied by sensory or reflex loss and, if there is involvement of the lower back, positive straight-leg raising test (sitting and supine).

101.05 ***Amputation (due to any cause)***.

A. Both hands;

OR

B. One or both lower extremities at or above the tarsal region, with stump complications resulting in medical inability to use a prosthetic device to ambulate effectively, as defined in 101.00B2b, which have lasted or are expected to last for at least 12 months;

OR

C. One hand and one lower extremity at or above the tarsal region, with inability to ambulate effectively, as defined in 101.00B2b;
OR

B. D. Hemipelvectomy or hip disarticulation.

101.06 ***Fracture of the femur, tibia, pelvis, or one or more of the tarsal bones***. With:

A. Solid union not evident on appropriate medically acceptable imaging, and not clinically solid;

AND

B. Inability to ambulate effectively, as defined in 101.00B2b, and return to effective ambulation did not occur or is not expected to occur within 12 months of onset.

101.07 ***Fracture of an upper extremity*** with nonunion of a fracture of the shaft of the humerus, radius, or ulna, under continuing surgical management, as defined in 101.00M, directed toward restoration of functional use of the extremity, and such function was not restored or expected to be restored within 12 months of onset.

101.08 ***Soft tissue injury (e.g., burns)*** of an upper or lower extremity, trunk, or face and head, under continuing surgical management, as defined in 101.00M, directed toward the salvage or restoration of major function, and such major function was not restored or expected to be restored within 12 months of onset. Major function of the face and head is described in 101.00O.

102.00 Special Senses and Speech

A. *Visual impairments in children.* Impairment of visual acuity should be determined with use of the standard Snellen test chart. Where this cannot be used, as in very young children, a complete description of the findings should be provided, using other appropriate methods of examination, including a description of the techniques used for determining the visual acuity for distance.

The accommodative reflex is generally not present in children under 6 months of age. In premature infants, it may not be present until 6 months plus the number of months the child is premature. Therefore, absence of accommodative reflex will be considered as indicating a visual impairment only in children above this age (6 months).

Documentation of a visual disorder must include a description of the ocular pathology.

B. *Hearing impairments in children.* The criteria for hearing impairments in children take into account that a lesser impairment in hearing which occurs at an early age may result in a severe speech and language disorder.

Improvement by a hearing aid, as predicted by the testing procedure, must be demonstrated to be feasible in that child, since younger children may be unable to use a hearing aid effectively.

The type of audiometric testing performed must be described and a copy of the results must be included. The pure tone air conduction hearing levels in 102.08 are based on American National

Standard Institute Specifications for Audiometers, S3.6 - 1969 (ANSI-1969). The report should indicate the specifications used to calibrate the audiometer.

The finding of a severe impairment will be based on the average hearing levels at 500, 1000, 2000, and 3000 Hertz (Hz) in the better ear, and on speech discrimination, as specified in 102.08.

102.01 Category of Impairments, Special Sense Organs

102.02 **I*mpairments of visual acuity***

A. Remaining vision in the better eye after best correction is 20/200 or less; or

B. For children below 3 years of age at time of adjudication:

1. Absence of accommodative reflex (see 102.00A for exclusion of children under 6 months of age); or

2. Retrolental fibroplasia with macular scarring or neovascularization; or

3. Bilateral congenital cataracts with visualization of retinal red reflex only or when associated with other ocular pathology.

102.08 ***Hearing impairments***

A. For children below 5 years of age at time of adjudication, inability to hear air conduction thresholds at an average of 40 decibels (db) hearing level or greater in the better ear; or

B. For children 5 years of age and above at time of adjudication:

1. Inability to hear air conduction thresholds at an average of 70 decibels (db) or greater in the better ear; or

2. Speech discrimination scores at 40 percent or less in the better ear; or

3. Inability to hear air conduction thresholds at an average of 40 decibels (db) or greater in the better ear, and a speech and language disorder which significantly affects the clarity and content of the speech and is attributable to the hearing impairment.

103.00 Respiratory System

A. *Introduction.* The listings in this section describe impairments resulting from respiratory disorders based on symptoms, physical signs, laboratory test abnormalities, and response to a regimen of treatment prescribed by a treating source. Respiratory disorders, along with any associated impairment(s) must be established by medical evidence. Evidence must be provided in sufficient detail to permit an independent reviewer to evaluate the severity of the impairment. Reasonable efforts should be made to ensure evaluation by a program physician specializing in childhood respiratory impairments or a qualified pediatrician.

Many children, especially those who have listing-level impairments, will have received the benefit of medically prescribed treatment. Whenever there is such evidence, the longitudinal

clinical record must include a description of the treatment prescribed by the treating source and response, in addition to information about the nature and severity of the impairment. It is important to document any prescribed treatment and response because this medical management may have improved the child's functional status. The longitudinal record should provide information regarding functional recovery, if any.

Some children will not have received ongoing treatment or have an ongoing relationship with the medical community, despite the existence of a severe impairment(s). A child who does not receive treatment may or may not be able to show an impairment that meets the criteria of these listings. Even if a child does not show that his or her impairment meets the criteria of these listings, the child may have an impairment(s) that medically or functionally equals the listings. Unless the claim can be decided favorably on the basis of the current evidence, a longitudinal record is still important because it will provide information about such things as the ongoing medical severity of the impairment, the level of the child's functioning, and the frequency, severity, and duration of symptoms. Also, the asthma listing specifically includes a requirement for continuing signs and symptoms despite a regimen of prescribed treatment.

Evaluation should include consideration of adverse effects of respiratory impairment in all relevant body systems, and especially on the child's growth and development or mental functioning, as described under the growth impairment (100.00), neurological (111.00), and mental disorders (112.00) listings.

It must be remembered that these listings are only examples of common respiratory disorders that are severe enough to find a child disabled. When a child has a medically determinable impairment that is not listed, an impairment that does not meet the requirements of a listing, or a combination of impairments no one of which meets the requirements of a listing, we will make a determination whether the child's impairment(s) medically or functionally equals the listings. (See §§ 404.1526, 416.926, and 416.926a.)

B. *Documentation of Pulmonary Function Testing.* The results of spirometry that are used for adjudication, under the 103.02 A and B, 103.03, and 103.04 of these listings should be expressed in liters (L), body temperature and pressure saturated with water vapor (BTPS). The reported one-second forced expiratory volume (FEV_1) and forced vital capacity (FVC) should represent the largest of at least three satisfactory forced expiratory maneuvers. Two of the satisfactory spirograms should be reproducible for both pre-bronchodilator tests and, if indicated, postbronchodilator tests. A value is considered reproducible if it does not differ from the largest value by more than 5 percent or 0. 1 L, whichever is greater. The highest values of the FEV_1, and FVC, whether from the same or different tracings, should be used to assess the severity of the respiratory impairment.

Peak flow should be achieved early in expiration, and the spirogram should have a smooth contour with gradually decreasing flow throughout expiration. The zero time for measurement of the FEV_1 and FVC, if not distinct, should be derived by linear back-extrapolation of peak flow to zero volume. A spirogram is satisfactory for measurement of the FEV_1 if the expiratory volume at the back-extrapolated zero time is less than 5 percent of the FVC or 0.1 L, whichever is greater. The spirogram is satisfactory for measurement of the FVC if maximal expiratory effort continues for at least 6 seconds, or if there is a plateau in the volume-time curve with no detectable change in expired volume (VE) during the last 2 seconds of maximal expiratory effort.

Spirometry should be repeated after administration of an aerosolized bronchodilator under supervision of the testing personnel if the prebronchodilator FEV_1 value is less than the appropriate reference value in table I or III, as appropriate. If a bronchodilator is not administered, the reason should be clearly stated in the report. Pulmonary function studies should not be performed unless the clinical status is stable (e.g., the child is not having an asthmatic attack or suffering from an acute respiratory infection or other acute illness.). Wheezing is common in asthma, chronic bronchitis, or chronic obstructive pulmonary disease and does not preclude testing. Pulmonary function studies performed to assess airflow obstruction without testing after bronchodilators cannot be used to assess levels of impairment in the range that prevents a child from performing ageappropriate activities unless the use of bronchodilators is contraindicated. Post-bronchodilator testing, should be performed 10 minutes after bronchodilator administration. The dose and name of the bronchodilator administered should be specified. The values in 103.02 and 103.04 must only be used as criteria for the level of ventilatory impairment that exists during the child's most stable state of health (i.e., any period in time except during or shortly after an exacerbation).

The appropriately labeled spirometric tracing, showing the child' s name, date of testing, distance per second on the abscissa and the distance per liter (L) on the ordinate, must be incorporated into the file. The manufacturer and model number of the device used to measure and record the spirogram should be stated. The testing device must accurately measure both time and volume, the latter to within 1 percent of a 3 L calibrating volume. If the spirogram was generated by any means other than direct pen linkage to a mechanical displacement-type spirometer, the testing device must have had a recorded calibration performed previously on the day of the spirometric measurement.

If the spirometer directly measures flow, and volume is derived by electronic integration, the linearity of the device must be documented by recording volume calibrations at three different flow rates of approximately 30 L/min (3 L/6 sec), 60 L/min (3 L/3 sec), and 180 L/min (3 L/sec). The volume calibrations should agree to within 1 percent of a 3 L calibrating volume. The proximity of the flow sensor to the child should be noted, and it should be stated whether or not a BTPS correction factor was used for the calibration recordings and for the child's actual spirograms.

The spirogram must be recorded at a speed of at least 20 mm/sec, and the recording device must provide a volume excursion of at least 10 mm/L. If reproductions of the original spirometric tracings are submitted, they must be legible and have a time scale of at least 20 mm/sec and a volume scale of at least 10 mm/L to permit independent measurements. Calculation of FEV_1 from a flow-volume tracing is not acceptable; i.e., the spirogram and calibrations must be presented in a volume-time format at a speed of at least 20 mm/sec and a volume excursion of at least 10 mm/L to permit independent evaluation.

A statement should be made in the pulmonary function test report of the child's ability to understand directions, as well as his or her effort and cooperation in performing the pulmonary function tests.

Purchase of a pulmonary function test is appropriate only when the child is capable of performing reproducible forced expiratory maneuvers. This capability usually occurs around age 6. Purchase of a pulmonary function test may be appropriate when there is a question of whether an impairment meets or is equivalent in severity to a listing, and the claim cannot otherwise be favorably decided.

The pulmonary function tables in 103.02 and 103.04 are based on measurement of standing height without shoes. If a child has marked spinal deformities (e.g. kyphoscoliosis), the measured span between the fingertips with the upper extremities abducted 90 degrees should be substituted for height when this measurement is greater than the standing height without shoes.

C. Documentation of chronic impairment of gas exchange.

1. Arterial blood gas studies (ABGS). An ABGS performed at rest (while breathing room air, awake and sitting or standing) should be analyzed in a laboratory certified by a State or Federal agency. If the laboratory is not certified, it must submit evidence of participation in a national proficiency testing program as well as acceptable quality control at the time of testing. The report should include the altitude of the facility and the barometric pressure on the date of analysis.

Purchase of a resting ABGS may be appropriate when there is a question of whether an impairment meets or is equivalent in severity to a listing, and the claim cannot otherwise be favorably decided. Before purchasing resting ABGS a program physician, preferably one experienced in the care of children with pulmonary disease, must review the clinical and laboratory data short of this procedure, including spirometry, to determine whether obtaining the test would present a significant risk to the child.

2. *Oximetry.* Pulse oximetry may be substituted for arterial blood gases in children under 12 years of age. The oximetry unit should employ the basic technology of spectrophotometric plethysmography as described in Taylor, M.B., and Whitwain, J.G., "Current Status of Pulse Oximetry," "Anesthesia," Vol. 41. No. 9, pp. 943-949, 1986. The unit should provide a visual display of the pulse signal and the corresponding oxygen saturation. A hard copy of the readings (heart rate and saturation) should be provided. Readings should be obtained for a minimum of 5 minutes. The written report should describe patient activity during the recording; i.e., sleep rate, feeding, or exercise. Correlation between the actual heart rate determined by a trained observer and that displayed by the oximeter should be provided. A statement should be made in the report of the child's effort and cooperation during the test.

Purchase of oximetry may be appropriate when there is a question of whether an impairment meets or is equivalent in severity to a listing, and the claim cannot otherwise be favorably decided.

D. *Cystic fibrosis* is a disorder that affects either the respiratory or digestive body systems or both and may impact on a child's growth and development. It is responsible for a wide and variable spectrum of clinical manifestations and complications. Confirmation of the diagnosis is based upon an elevated sweat sodium concentration or chloride concentration accompanied by one or more of the following: the presence of chronic obstructive pulmonary disease, insufficiency of exocrine pancreatic function, meconium ileus, or a positive family history. The quantitative pilocarpine iontophoresis procedure for collection of sweat content must be utilized. Two methods are acceptable: the "Procedure for the Quantitative Iontophoretic Sweat Test for Cystic Fibrosis" published by the Cystic Fibrosis Foundation and contained in, "A Test for Concentration of Electrolytes in Sweat in Cystic Fibrosis of the Pancreas Utilizing Pilocarpine Iontophoresis," Gibson, I.E., and Cooke, R.E., Pediatrics, Vol. 23:545, 1959; or the "Wescor Macroduct System." To establish the diagnosis of cystic fibrosis, the sweat sodium or chloride content must be analyzed quantitatively using an acceptable laboratory technique. Another diagnostic test is the "CF gene mutation analysis" for homozygosity of the cystic fibrosis gene.

The pulmonary manifestations of this disorder should be evaluated under 103.04. The nonpulmonary aspects of cystic fibrosis should be evaluated under the listings for digestive system (105.00) or growth impairments (100.00). Because cystic fibrosis may involve the respiratory and digestive body systems, as well as impact on a child's growth and development, the combined effects of this involvement must be considered in case adjudication.

Medically acceptable imaging includes, but is not limited to, x-ray imaging, computerized axial tomography (CAT scan) or magnetic resonance imaging (MRI), with or without contrast material, myelography, and radionuclear bone scans. “Appropriate” means that the technique used is the proper one to support the evaluation and diagnosis of the impairment.

E. *Bronchopulmonary dysplasia (BPD).* Bronchopulmonary dysplasia is a form of chronic obstructive pulmonary disease that arises as a consequence of acute lung injury in the newborn period and treatment of hyaline membrane disease, meconium aspiration, neonatal pneumonia and apnea of prematurity. The diagnosis is established by the requirement for continuous or nocturnal supplemental oxygen for more than 30 days, in association with characteristic changes on medically acceptable imaging and clinical signs of respiratory dysfunction, including retractions, rales, wheezing, and tachypnea. The diagnosis is established by the requirement for continuous or nocturnal supplemental oxygen for more than 30 days, in association with characteristic changes on medically acceptable imaging and clinical signs of respiratory dysfunction, including retractions, rales, wheezing, and tachypnea.

103.01 Category of Impairments, Respiratory System

103.02 ***Chronic pulmonary insufficiency.*** With:

A. Chronic obstructive pulmonary disease due to any cause with the FEV_1 equal to or less than the value specified in Table I corresponding to the child's height without shoes. (In cases of marked spinal deformity, see 103.00B.);

Table I

Height without Shoes (centimeters)	Height without Shoes (inches)	FEV_1 equal to or less than (L,BTPS)
119 or less.	46 or less	0.65
120-129.	47-50	0.75
130-139	51-54	0.95
140-149	55-58	1.15
150-159	59-62	1.35
160-164	63-64	1.45
165-169	65-66	1.55
170 or more	67 or more	1.65

Or

B. Chronic restrictive ventilatory disease, due to any cause, with the FVC equal to or less then the value specified in Table II corresponding to the child's height without shoes. (In cases of marked spinal deformity, see 103.00B.);

Table II

Height without Shoes (centimeters)	Height without shoes (inches)	FVC equal to or less than (L,BTPS)
119 or less	46 or less	0.65
120-129	47-50	0.85
130-139	51-54	1.05
140-149	55-58	1.25
150-159	59-62	1.45
160-164	63-64	1.65
165-169	65-66	1.75
170 or more . . .	67 or more	2.05

Or

C. Frequent need for:

1. Mechanical ventilation; or

2. Nocturnal supplemental oxygen as required by persistent or recurrent episodes of hypoxemia;

Or

D. The presence of a tracheostomy in a child under 3 years of age;

Or

E. Bronchopulmonary dysplasia characterized by two of the following;

1. Prolonged expirations; or

2. Intermittent wheezing or increased respiratory effort as evidenced by retractions, flaring and tachypnea; or

3. Hyperinflation and scarring on a chest radiograph or other appropriate imaging techniques; or

4. Bronchodilator or diuretic dependency; or

5. A frequent requirement for nocturnal supplemental oxygen; or

6. Weight disturbance with:

a. An involuntary weight loss (or failure to gain weight at an appropriate rate for age) resulting in a fall of 15 percentiles from established growth curve (on standard growth charts) which persists for 2 months or longer; or

b. An involuntary weight loss (or failure to gain weight at an appropriate rate for age) resulting in a fall to below the third percentile from established growth curve (on standard growth charts) which persists for 2 months or longer;

Or

F. Two required hospital admissions (each longer than 24 hours) within a 6-month period for recurrent lower respiratory tract infections or acute respiratory distress associated with:

1. Chronic wheezing or chronic respiratory distress; or

2. Weight disturbance with;

a. An involuntary weight loss (or failure to gain weight at an appropriate rate for age) resulting in a fall of 15 percentiles from established growth curve (on standard growth charts) which persists for 2 months or longer; or

b. An involuntary weight loss (or failure to gain weight at an appropriate rate for age) resulting in a fall to below the third percentile from established growth curve (on standard growth charts) which persists for 2 months or longer;

Or

G. Chronic hypoventilation (Pa CO_2 greater than 45 mm Hg) or chronic cor pulmonale as described under the appropriate criteria in 104.02;

Or

H. Growth impairment as described under the criteria in 100.00.

103.03 ***Asthma***. With:

A. FEV_1 equal to or less than the value specified in Table I of 103.02A:

Or

B. Attacks (as defined in 3.00C), in spite of prescribed treatment requiring physician intervention, occurring at least once every 2 months or at least six times a year. Each inpatient hospitalization for longer than 24 hours for control of asthma counts as two attacks, and an evaluation period of at least 12 consecutive months must be used to determine the frequency of attacks.

Or

C. Persistent low-grade wheezing between acute attacks or absence of extended symptom-free periods requiring daytime and nocturnal use of sympathomimetic bronchodilators with one of the following:

1. Persistent prolonged expiration with radiographic or other appropriate imaging techniques evidence of pulmonary hyperinflation or peribronchial disease; or

2. Short courses of corticosteroids that average more than 5 days per month for at least 3 months during a 12-month period;

Or

D. Growth impairment as described under the criteria in 100.00.

103.04 ***Cystic fibrosis***. With:

A. An FEV_1 equal to or less than the appropriate value specified in Table III corresponding to the child's height without shoes. (In cases of marked spinal deformity, see. 103.00B.);

Or

B. For children in whom pulmonary function testing cannot be performed, the presence of two of the following:

1. History of dyspnea on exertion or accumulation of secretions as manifested by repetitive coughing or cyanosis; or

2. Persistent bilateral rales and rhonchi or substantial reduction of breath sounds related to mucous plugging of the trachea or bronchi; or

3. Appropriate medically acceptable imaging evidence of extensive disease, such as thickening of the proximal bronchial airways or persistence of bilateral peribronchial infiltrates;

Or

C. Persistent pulmonary infection accompanied by superimposed, recurrent, symptomatic episodes of increased bacterial infection occurring at least once every 6 months and requiring intravenous or nebulization antimicrobial treatment;

Or

D. Episodes of bronchitis or pneumonia or hemoptysis (more than bloodstreaked sputum) or respiratory failure (documented according to 3.00C, requiring physician intervention, occurring at least once every 2 months or at least six times a year. Each inpatient hospitalization for longer than 24 hours for treatment counts as two episodes, and an evaluation period of at least 12 consecutive months must be used to determine the frequency of episodes;

Or

E. Growth impairment as described under the criteria in 100.00.

Table III

(Applicable only for evaluation under 103.04A - cystic fibrosis)

Height without Shoes (centimeters)	Height without Shoes(inches)	FEV_1 equal to or less than (L,BTPS)
119 or less	46 or less	0.75
120-129	47-50	0.85
130-139	51-54	1.05
140-149	55-58	1.35
150-159	59-62	1.55
160-164	63-64	1.85
165-169	65-66	2.05
170 or more . . .	67 or more	2.25

104.00 Cardiovascular System

A. *Introduction.* The listings in this section describe childhood impairments resulting from congenital or acquired cardiovascular disease based on symptoms, physical signs, laboratory test abnormalities, and response to a regimen of therapy prescribed by a treating source. A longitudinal clinical record covering a period of not less than 3 months of observations and therapy is usually necessary for the assessment of severity and expected duration unless the child is a neonate or the claim can be decided favorably on the basis of the current evidence. All relevant evidence must be considered in assessing a child's disability. Reasonable efforts should be made to ensure evaluation by a program physician specializing in childhood cardiovascular impairments or a qualified pediatrician.

Examples of congenital defects include: abnormalities of cardiac septation, such as ventricular septal defect or atrioventricular (AV) canal; abnormalities resulting in cyanotic heart disease, such as tetralogy of Fallot or transposition of the vessels; valvular defects or obstructions to ventricular outflow, including pulmonary or aortic stenosis and/or coarctation of the aorta; and major abnormalities of ventricular development, including hypoplastic left heart syndrome or pulmonary tricuspid atresia with hypoplastic right ventricle. Acquired heart disease may be due to cardiomyopathy, rheumatic heart disease, Kawasaki syndrome, or other etiologies. Recurrent arrhythmias, severe enough to cause functional impairment, may be seen with congenital or acquired heart disease or, more rarely, in children with structurally normal hearts.

Cardiovascular impairments, especially chronic heart failure and congenital heart disease, may result in impairments in other body systems including, but not limited to, growth, neurological, and mental. Therefore, evaluation should include consideration of the adverse effects of cardiovascular impairment in all relevant body systems, and especially on the child's growth and development, or mental functioning, as described under the Growth impairment (100.00), Neurological (111.00), and Mental retardation (112.05) listings.

Many children, especially those who have listing-level impairments, will have received the benefit of medically prescribed treatment. Whenever there is evidence of such treatment, the longitudinal clinical record must include a description of the therapy prescribed by the treating source and response, in addition to information about the nature and severity of the impairment.

It is important to document any prescribed therapy and response because this medical management may have improved the child's functional status. The longitudinal record should provide information regarding functional recovery, if any.

Some children will not have received ongoing treatment or have an ongoing relationship with the medical community despite the existence of a severe impairment(s). Unless the claim can be decided favorably on the basis of the current evidence, a longitudinal record is still important because it will provide information about such things as the ongoing medical severity of the impairment, the level of the child's functioning, and the frequency, severity, and duration of symptoms. Also, several listings include a requirement for continuing signs and symptoms despite a regimen of prescribed treatment. Even though a child who does not receive treatment may not be able to show an impairment that meets the criteria of these listings, the child may have an impairment(s) that medically or functionally equals the listings.

Indeed, it must be remembered that these listings are only examples of common cardiovascular disorders that are severe enough to find a child disabled. When you have a medically determinable impairment that is not listed, an impairment that does not meet the requirements of a listing, or a combination of impairments no one of which meets the requirements of a listing, we will consider a determination whether your impairment(s) medically equals or, as appropriate, or functionally equals the listings. (See §§ 404.1526, 416.926, and 416.926a.)

B. *Documentation*

Each child's file must include sufficiently detailed reports on history, physical examinations, laboratory studies, and any prescribed therapy and response to allow an independent reviewer to assess the severity and duration of the cardiovascular impairment. Data should be obtained preferably from an office or center experienced in pediatric cardiac assessment. The actual electrocardiographic tracing (or adequately marked photocopy) and echocardiogram report with a copy of relevant echocardiographic views should be included (see Part A, 4.00C1).

Results of additional studies necessary to substantiate the diagnosis or to document the severity of the impairment, including two-dimensional and Doppler echocardiography, and radionuclide ventriculograms, should be obtained, as appropriate, according to Part A, 4.00C3. Ambulatory electrocardiographic monitoring may also be obtained if necessary to document the presence or severity of an arrhythmia.

Exercise testing, though increasingly used, is still less frequently indicated in children than in adults, and can rarely be successfully performed in children under 6 years of age. It may be of value in the assessment of some arrhythmias, in the assessment of the severity of chronic heart failure, and in the assessment of recovery of function following cardiac surgery or other therapy. It will only be purchased by the Social Security Administration if the case cannot be decided based on the available evidence and, if purchased, must be performed in a specialty center for pediatric cardiology or other facility qualified to perform exercise testing for children.

Purchased exercise tests should be performed using a generally accepted protocol consistent with the prevailing state of medical knowledge and clinical practice. An exercise test should not be purchased for a child for whom the performance of the test is considered to constitute a significant risk by a program physician. See 4.00C2c.

Cardiac catheterization will not be purchased by the Social Security Administration. If the results of catheterization are otherwise available, they should be obtained.

C. *Treatment and relationship to functional status.*

In general, conclusions about the severity of a cardiovascular impairment cannot be made on the basis of type of treatment rendered or anticipated. The overall clinical and laboratory evidence, including the treatment plan(s) or results, should be persuasive that a listing-level impairment exists. The amount of function restored and the time required for improvement after treatment (medical, surgical, or a prescribed program of progressive physical activity) vary with the nature and extent of the disorder, the type of treatment, and other factors. Depending upon the timing of this treatment in relation to the alleged onset date of disability, impairment evaluation may need to be deferred for a period of up to 3 months from the date of treatment to permit consideration of treatment effects. Evaluation should not be deferred if the claim can be favorably decided based upon the available evidence.

The most life-threatening forms of congenital heart disease and cardiac impairments, such as those listed in 104.00D, almost always require surgical treatment within the first year of life to prevent early death. Even with surgery, these impairments are so severe that it is likely that the impairment will continue to be disabling long enough to meet the duration requirement because of significant residual impairment post-surgery, or the recovery time from surgery, or a combination of both factors. Therefore, when the impairment is one of those named in 104.00D, or is as severe as one of those impairments, the presence of a listing-level impairment can usually be found on the basis of planned or actual cardiac surgery.

A child who has undergone surgical treatment for life-threatening heart disease will be found under a disability for 12 months following the date of surgery under 104.06H (for infants with life-threatening cardiac disease) or 104.09 (for a child of any age who undergoes cardiac transplantation) because of the uncertainty during that period concerning outcome or long-term results. After 12 months, continuing disability evaluation will be based upon residual impairment, which will consider the clinical course following treatment and comparison of symptoms, signs, and laboratory findings preoperatively and after the specified period. (See § 404.1594 or § 416.994a, as appropriate, for our rules on medical improvement and whether an individual is no longer disabled.)

D. *Congenital heart disease.*

Some congenital defects usually lead to listing-level impairment in the first year of life and require surgery within the first year as a life-saving measure. Examples of impairments that in most instances will require life-saving surgery before age 1, include, but are not limited to, the following: hypoplastic left heart syndrome; critical aortic stenosis with neonatal heart failure; critical coarctation of the aorta, with or without associated anomalies; complete AV canal defects; transposition of the great arteries; tetralogy of Fallot; and pulmonary atresia with intact ventricular septum.

In addition, there are rarer defects which may lead to early mortality and that may require multiple surgical interventions or a combination of surgery and other major interventional procedures (e.g., multiple "balloon" catheter procedures). Examples of such defects include single ventricle, tricuspid atresia, and multiple ventricular septal defects.

Pulmonary vascular obstructive disease can cause cardiac impairment in young children. When a large or nonrestrictive septal defect or ductus is present, pulmonary artery mean pressures of at least 70 percent of mean systemic levels are used as a criterion of listing-level impairment. In

the absence of such a defect (i.e., with primary pulmonary hypertension, or in some connective tissue disorders with cardiopulmonary involvement and pulmonary vascular destruction), listing-level impairment may be present at lower levels of pulmonary artery pressure, in the range of at least 50 percent of mean systemic levels.

E. *Chronic heart failure.*

Chronic heart failure in infants and children may manifest itself by pulmonary or systemic venous congestion, including cardiomegaly, chronic dyspnea, tachypnea, orthopnea, or hepatomegaly; or symptoms of limited cardiac output, such as weakness or fatigue; or a need for cardiotonic drugs. Fatigue or exercise intolerance in an infant may be manifested by prolonged feeding time associated with signs of cardiac impairment, including excessive respiratory effort and sweating. Other manifestations of chronic heart failure during infancy may include failure to gain weight or involuntary loss of weight and repeated lower respiratory tract infections.

Findings of cardiomegaly shown by appropriate medically acceptable imaging evidence must be accompanied by other evidence of chronic heart failure or ventricular dysfunction. “Appropriate” means that the imaging technique used is the proper one to support the evaluation and diagnosis of the impairment. (Reference: Feigenbaum, Harvey "Echocardiography." 4th Edition, Lea and Febiger, 1986, Appendix, pp. 621-639.) Chest x-ray (6 ft. PA film) will be considered indicative of cardiomegaly if the cardiothoracic ratio is over 60 percent at age l year or less, or 55 percent at more than 1 year of age.

Findings of cardiomegaly on chest x-ray must be accompanied by other evidence of chronic heart failure or ventricular dysfunction. This evidence may include clinical evidence, such as hepatomegaly, edema, or pulmonary venous congestion; or echocardiographic evidence, such as marked ventricular dilatation above established normals for age, or markedly reduced ejection fraction or shortening fraction.

F. *Valvular heart disease.*

Valvular heart disease requires documentation by appropriate imaging techniques, including Doppler echocardiogram studies or cardiac catheterization if catheterization results are available from a treating source or other source of record. Listing-level impairment is usually associated with critical aortic stenosis in a newborn child, persistent heart failure, arrhythmias, or valve replacement and ongoing anticoagulant therapy. The usual time after valvular surgery for adequate assessment of the results of treatment is considered to be 3 months.

G. *Rheumatic heart disease.*

The diagnosis should be made in accordance with the current revised Jones criteria for guidance in the diagnosis of rheumatic fever.

104.01 Category of Impairments, Cardiovascular System

104.02 ***Chronic heart failure.*** Documented by clinical and laboratory findings as described in 104.00E, and with one of the following:

A. Persistent tachycardia at rest (see Table I);

Or

B. Persistent tachypnea at rest (see Table II), or markedly decreased exercise tolerance (see 104.00E);

Or

C. Recurrent arrhythmias, as described in 104.05;

Or

D. Growth disturbance, with:

1. An involuntary weight loss (or failure to gain weight at an appropriate rate for age) resulting in a fall of 15 percentiles from established growth curve (on standard growth charts) which persists for 2 months or longer; or

2. An involuntary weight loss (or failure to gain weight at an appropriate rate for age) resulting in a fall to below the third percentile from established growth curve (on standard growth charts) which persists for 2 months or longer; or

3. Growth impairment as described under the criteria in 100.00.

Table I - Tachycardia at rest

Age	Apical Heart (Beats Per Minute)
Under 1 year	 150
1 through 3 years	 130
4 through 9 years	 120
10 through 15 years	 110
Over 15 years	 100

Table II - Tachypnea at rest

Age	Respiratory Rate Over (Per Minute)
Under 1 year	 40
1 through 5 years	 35
6 through 9 years	 30
Over 9 years	 25

104.03 ***Hypertensive cardiovascular disease****.* With persistently elevated blood pressure equal to or greater than the 95th percentile for age (see Table III), and one of the following:

A. Impaired renal function, as described in 106.02;

Or

B. Cerebrovascular damage, as described in 111.06;

Or

C. Chronic heart failure as described in 104.02.

Table III - Elevated Blood Pressure

Age	Systolic Over (mmHg)	Or	Diastolic Over (mmHg)
Under I month	95	. . . . .	-
1 month through 2 years	112	. . . . .	74
3 through 5 years	116	. . . . .	76
6 through 9 years	122	. . . . .	78
10 through 12 years	126	. . . . .	82
13 through 15 years	136	. . . . .	86
16 to 18 years	142	. . . . .	92

104.05 ***Recurrent arrhythmias****,* such as persistent or recurrent heart block (A-V dissociation), repeated symptomatic tachyarrhythmias or bradyarrhythmias or long QT syndrome arrhythmias, not related to reversible causes such as electrolyte abnormalities or digitalis glycoside or antiarrhythmic drug toxicity, resulting in uncontrolled repeated episodes of cardiac syncope or near syncope and arrhythmia despite prescribed treatment, including electronic pacemaker (see 104.00A if there is no prescribed treatment), and documented by resting or ambulatory (Holter) electrocardiography coincident with the occurrence of syncope or near syncope.

104.06 ***Congenital heart disease****.* With one of the following:

A. Cyanotic heart disease, with persistent, chronic hypoxemia as manifested by;

1. Hematocrit of 55 percent or greater on two or more evaluations within a 3-month period; or

2. Arterial O_2 saturation of less than 90 percent in room air, or resting PO_2 of 60 Torr or less; or

3. Hypercyanotic spells, syncope, characteristic squatting, or other incapacitating symptoms directly related to documented cyanotic heart disease; or

4. Exercise intolerance with increased hypoxemia on exertion;

Or

B. Chronic heart failure with evidence of ventricular dysfunction, as described in 104.02;

Or

C. Recurrent arrhythmias as described in 104.05;

Or

D. Secondary pulmonary vascular obstructive disease with a mean pulmonary arterial pressure elevated to at least 70 percent of the mean systemic arterial pressure;

Or

E. Congenital valvular or other stenotic defects, or valvular regurgitation, as described in 104.00F and 104.07;

Or

F. Symptomatic acyanotic heart disease, with ventricular dysfunction resulting in significant restriction of age-appropriate activities or inability to complete age-appropriate tasks (see 104.00A);

Or

G. Growth failure, as described in 100.00;

Or

H. For infants under 12 months of age at the time of filing, with life-threatening congenital heart impairment that will or has required surgical treatment in the first year of life, consider the infant to be under a disability until the attainment of age 1 or for 12 months after surgery, whichever is the later event; thereafter, evaluate impairment severity with reference to 104.02 to 104.08.

104.07 ***Valvular heart disease or other stenotic defects, or valvular regurgitation,*** documented by appropriate imaging techniques or cardiac catheterization.

A. Evaluate according to criteria in 104.02, 104.05, 111.06, or 11.04;

Or

B. Critical aortic stenosis in newborn.

104.08 ***Cardiomyopathies,*** documented by appropriate imaging techniques, including echocardiography or cardiac catheterization, if catheterization results are available from a treating source. Impairment must be associated with an ejection fraction of 50 percent or less and significant left ventricular dilatation using standardized age-appropriate echocardiographic ventricular cavity measurements. Evaluate under the criteria in 104.02, 104.05, or 111.06.

104.09 ***Cardiac transplantation.*** Consider under a disability for 1 year following surgery; thereafter, evaluate residual impairment under 104.02 to 104.08.

104.13 ***Chronic rheumatic fever or rheumatic heart disease*** Consider under a disability for 18 months from the established onset of impairment with one of the following:

A. Persistence of rheumatic fever activity for 6 months or more which is manifested by significant murmur(s), cardiac enlargement (see 104.00E) or ventricular dysfunction, and other abnormal laboratory findings, as for example, an elevated sedimentation rate or ECG findings;

Or

B. Evidence of chronic heart failure, as described under 104.02;

Or

C. Recurrent arrhythmias, as described under 104.05.

104.14 ***Hyperlipidemia.***. Documented Type II homozygous hyperlipidemia with repeated plasma cholesterol levels of 500 mg/ml or greater, with one of the following:

A. Myocardial ischemia, as described in 4.04B or 4.04C;

Or

B. Significant aortic stenosis documented by Doppler echocardiographic techniques or cardiac catheterization;

Or

C. Major disruption of normal life activities by repeated hospitalizations for plasmapheresis or other prescribed therapies, including liver transplant;

Or

D. Recurrent pancreatitis complicating hyperlipidemia.

104.15 ***Kawasaki syndrome***. With one of the following:

A. Major coronary artery aneurysm;

Or

B. Chronic heart failure, as described in 104.02.

105.00 Digestive System

A. *Disorders of the digestive system* which result in disability usually do so because of interference with nutrition and growth, multiple recurrent inflammatory lesions, or other complications of the disease. Such lesions or complications usually respond to treatment. To constitute a listed impairment, these must be shown to have persisted or be expected to persist despite prescribed therapy for a continuous period of at least 12 months.

B. *Documentation of gastrointestinal impairments* should include pertinent operative findings, appropriate medically acceptable imaging studies, endoscopy, and biopsy reports. Medically acceptable imaging includes, but is not limited to, x-ray imaging, computerized axial tomography (CAT scan) or magnetic resonance imaging (MRI), with or without contrast material, myelography, and radionuclear bone scans. "Appropriate" means that the technique used is the proper one to support the evaluation and diagnosis of the impairment.

C. *Growth retardation and malnutrition.* When the primary disorder of the digestive tract has been documented, evaluate resultant malnutrition under the criteria described in 105.08. Evaluate resultant growth impairment under the criteria described in 100.03. Intestinal disorders, including surgical diversions and potentially correctable congenital lesions, do not represent a severe impairment if the individual is able to maintain adequate nutrition, growth and development.

D. *Multiple congenital anomalies.* See related criteria, and consider as a combination of impairments.

105.01 Category of Impairments, Digestive

105.03 ***Esophageal Obstruction, caused by atresia, stricture, or stenosis*** with malnutrition as described under the criteria in 105.08.

105.05 ***Chronic liver disease***. With one of the following:

A. Inoperable biliary atresia demonstrated by appropriate medically acceptable imaging or surgery; or

B. Intractable ascites not attributable to other causes, with serum albumin of 3.0 gm./100 ml. or less; or

C. Esophageal varices (demonstrated by endoscopy or other appropriate medically acceptable imaging); or

D. Hepatic coma, documented by findings from hospital records; or

E. Hepatic encephalopathy. Evaluate under the criteria in 112.02; or

F. Chronic active inflammation or necrosis documented by SGOT persistently more than 100 units or serum bilirubin of 2.5 mg. percent or greater.

105.07 ***Chronic inflammatory bowel disease (such as ulcerative colitis, regional enteritis), as documented in 105.00***. With one of the following:

A. Intestinal manifestations or complications, such as obstruction, abscess, or fistula formation which has lasted or is expected to last 12 months; or

B. Malnutrition as described under the criteria in 105.08; or

C. Growth impairment as described under the criteria in 100.03.

105.08 ***Malnutrition, due to demonstrable gastrointestinal disease causing either a fall of 15 percentiles of weight which persists or the persistence of weight which is less than the third percentile (on standard growth charts)***. And one of the following:

A. Stool fat excretion per 24 hours:

1. More than 15 percent in infants less than 6 months.

2. More than 10 percent in infants 6-18 months.

3. More than 6 percent in children more than 18 months; or

B. Persistent hematocrit of 30 percent or less despite prescribed therapy; or

C. Serum carotene of 40 mcg./100 ml. or less; or

D. Serum albumin of 3.0 gm./100 ml. or less.

105.09 ***Liver transplant.*** Consider under a disability for 12 months following the date of surgery; thereafter, evaluate the residual impairment.

106.00 Genito-Urinary System

A. *Determination of the presence of chronic renal disease* will be based upon the following factors:

1. History, physical examination, and laboratory evidence of renal disease.

2. Indications of its progressive nature or laboratory evidence of deterioration of renal function.

B. *Renal transplant.* The amount of function restored and the time required to effect improvement depend upon various factors including adequacy of post transplant renal function, incidence of renal infection, occurrence of rejection crisis, presence of systemic complications (anemia, neuropathy, etc.) and side effects of corticosteroid or immuno-suppressive agents. A period of at least 12 months is required for the individual to reach a point of stable medical improvement.

C. Evaluate associated disorders and complications according to the appropriate body system listing.

106.01 Category of Impairments, Genito-Urinary

106.02 **C*hronic Renal Disease***. With:

A. Persistent elevation of serum creatinine to 3 mg. per deciliter (100 ml.) or greater, over at least 3 months; or

B. Reduction of creatinine clearance to 30 ml. per minute (43 liters/ 24 hours) per 1.73m^2 of body surface area over at least 3 months; or

C. Chronic renal dialysis program for irreversible renal failure; or

D. Renal transplant. Consider under a disability for 12 months following surgery; thereafter evaluate the residual impairment (see 106.00B).

106.06 ***Nephrotic Syndrome****,* with edema not controlled by prescribed therapy. And:

A. Serum albumin less than 2 gm./100 ml.; or

B. Proteinuria more than 2.5 gm./1.73 m^2/day.

107.00 Hemic and Lymphatic System

A. *Sickle cell disease.* Refers to a chronic hemolytic anemia associated with sickle cell hemoglobin, either homozygous or in combination with thalassemia or with another abnormal hemoglobin (such as C or F).

Appropriate hematologic evidence for sickle cell disease, such as hemoglobin electrophoresis must be included. Vaso-occlusive, hemolytic, or aplastic episodes should be documented by description of severity, frequency, and duration.

Disability due to sickle cell disease may be solely the result of a severe, persistent anemia or may be due to the combination of chronic progressive or episodic manifestations in the presence of a less severe anemia.

Major visceral episodes causing disability include meningitis, osteomyelitis, pulmonary infections or infarctions, cerebrovascular accidents, congestive heart failure, genito-urinary involvement, etc.

B. *Coagulation defects.* Chronic inherited coagulation disorders must be documented by appropriate laboratory evidence such as abnormal thromboplastin generation, coagulation time, or factor assay.

C. *Acute leukemia (including T-cell lymphoblastic lymphoma).* Initial diagnosis of acute leukemia or T-cell lymphoblastic lymphoma must be based upon definitive bone marrow pathologic evidence. Recurrent disease may be documented by peripheral blood, bone marrow, or cerebrospinal fluid examination. The pathology report must be included.

The designated duration of disability implicit in the finding of a listed impairment is contained in 107.11. Following the designated time period, a documented diagnosis itself is no longer sufficient to establish a severe impairment. The severity of any remaining impairment must be evaluated on the basis of the medical evidence.

107.01 Category of Impairments, Hemic and Lymphatic

107.03 ***Hemolytic Anemia (due to any cause)****.* Manifested by persistence of hematocrit of 26 percent or less despite prescribed therapy, and reticulocyte count of 4 percent or greater.

107.05 ***Sickle cell disease****.* With:

A. Recent, recurrent severe vaso-occlusive crises (musculoskeletal, vertebral, abdominal); or

B. A major visceral complication in the 12 months prior to application; or

C. A hyperhemolytic or aplastic crisis within 12 months prior to application; or

D. Chronic, severe anemia with persistence of hernatocrit of 26 percent or less; or

E. Congestive heart failure, cerebrovascular damage, or emotional disorder as described under the criteria in 104.02, 111.00ff, or 112.00ff.

107.06 ***Chronic idiopathic thrombocytopenic purpura of childhood****.* With purpura and thrombocytopenia of 40,000 platelets/cu.mm. or less despite prescribed therapy or recurrent upon withdrawal of treatment.

107.08 ***Inherited coagulation disorder****.* With:

A. Repeated spontaneous or inappropriate bleeding; or

B. Hemarthrosis with joint deformity.

107.11 ***Acute leukemia (including T-cell lymphoblastic lymphoma****.* Consider under a disability:

A. For 2 1/2 years from the time of initial diagnosis; or

B. For 2 1/2 years from the time of recurrence of active disease.

109.00 Endocrine System

A. *Cause of disability.* Disability is caused by a disturbance in the regulation of the secretion or metabolism of one or more hormones which are not adequately controlled by therapy. Such disturbances or abnormalities usually respond to treatment. To constitute a listed impairment these must be shown to have persisted or be expected to persist despite prescribed therapy for a continuous period of at least 12 months.

B. *Growth.* Normal growth is usually a sensitive indicator of health as well as of adequate therapy in children. Impairment of growth may be disabling in itself or may be an indicator of a severe disorder involving the endocrine system or other body systems. Where involvement of other organ systems has occurred as a result of a primary endocrine disorder, these impairments should be evaluated according to the criteria under the appropriate sections.

C. *Documentation.* Description of characteristic history, physical findings, and diagnostic laboratory data must be included. Results of laboratory tests will be considered abnormal if outside the normal range or greater than two standard deviations from the mean of the testing laboratory. Reports in the file should contain the information provided by the testing laboratory as to their normal values for that test.

D. *Hyperfunction of the adrenal cortex.* Evidence of growth retardation must be documented as described in 100.00. Elevated blood or urinary free cortisol levels are not acceptable in lieu of urinary 17-hydroxycorticosteroid excretion for the diagnosis of adrenal cortical hyperfunction.

E. *Adrenal cortical insufficiency.* Documentation must include persistent low plasma cortisol or low urinary 17-hydroxycorticosteroids or 17-ketogenic steroids and evidence of unresponsiveness to ACTH stimulation.

109.01 Category of impairments, Endocrine

109.02 ***Thyroid disorders***.

A. *Hyperthyroidism* (as documented in 109.00C above). With clinical manifestations despite prescribed therapy, and one of the following:

1. Elevated serum thyroxine (T_4) and either elevated free T_4or resin T_3 uptake; or

2. Elevated thyroid uptake of radioiodine; or

3. Elevated serum triiodothyronine (T_3).

B. *Hypothyroidism.* With one of the following, despite prescribed therapy:

1. IQ of 70 or less; or

2. Growth impairment as described under the criteria in 100.02 A and B; or

3. Precocious puberty.

109.03 ***Hyperparathyroidism (as documented in 109.00C)***. With:

A. Repeated elevated total or ionized serum calcium; or

B. Elevated serum parathyroid hormone.

109.04 ***Hypoparathyroidism or pseudohypoparathyroidism***. With:

A. Severe recurrent tetany or convulsions which are unresponsive to prescribed therapy; or

B. Growth retardation as described under the criteria in 100.02A and B.

109.05 ***Diabetes insipidus, documented by pathologic hypertonic saline or water deprivation test***. And one of the following:

A. Intracranial space-occupying lesion, before or after surgery; or

B. Unresponsiveness to Pitressin; or

C. Growth retardation as described under the criteria in 100.02A and B; or

D. Unresponsive hypothalmic thirst center, with chronic or recurrent hypernatremia; or

E. Decreased visual fields attributable to a pituitary lesion.

109.06 ***Hyperfunction of the adrenal cortex (primary or secondary)***. With:

A. Elevated urinary 17-hydroxycorticosteroids (or 17-ketogenic steroids) as documented in 109.00C and D; and

B. Unresponsiveness to low-dose dexamethasone suppression.

109.07 ***Adrenal cortical insufficiency, (as documented in 109.00C and E)*** with recent, recurrent episodes of circulatory collapse.

109.08 ***Juvenile diabetes mellitus (as documented in 109.00C) requiring parenteral insulin***. And one of the following, despite prescribed therapy:

A. Recent, recurrent hospitalizations with acidosis; or

B. Recent, recurrent episodes of hypoglycemia; or

C. Growth retardation as described under the criteria in 100.02.A or B; or

D. Impaired renal function as described under the criteria in 106.00ff.

109.09 ***Iatrogenic hypercorticoid state***. With chronic glucocorticoid therapy resulting in one of the following:

A. Osteoporosis; or

B. Growth retardation as described under the criteria in 100.02A or B; or

C. Diabetes mellitus as described under the criteria in 109.08; or

D. Myopathy as described under the criteria in 111.06; or

E. Emotional disorder as described under the criteria in 112.00ff.

109.10 ***Pituitary dwarfism (With documented growth hormone deficiency)***. And growth impairment as described under the criteria in 100.02B.

109.11 ***Adrenogenital syndrome***. With:

A. Recent, recurrent salt-losing episodes despite prescribed therapy; or

B. Inadequate replacement therapy manifested by accelerated bone age and virilization; or

C. Growth impairment as described under the criteria in 100.02A or B.

109.12 ***Hypoglycemia*** (as documented in 109.00C. With recent, recurrent hypoglycemic episodes producing convulsion or coma.

109.13 ***Gonadal sysgenesis (Turner's syndrome), chromosomally proven.*** Evaluate the resulting impairment under the criteria for the appropriate body system.

110.00 Multiple Body Systems

A. This section refers to those life-threatening catastrophic congenital abnormalities and other serious hereditary, congenital, or acquired disorders that usually affect two or more body systems and are expected to:

1. Result in early death or developmental attainment of less than 2 years of age as described in listing 110.08 (e.g., anencephaly or Tay-Sachs); or

2. Produce long-term, if not life-long, significant interference with age appropriate major daily or personal care activities as described in listings 110.06 and 110.07. (Significant interference with age-appropriate activities is considered to exist where the developmental milestone age did not exceed two-thirds of the chronological age at the time of evaluation and such interference has lasted or could be expected to last at least 12 months.)
See 112.00C for a discussion of developmental milestone criteria and evaluation of age-appropriate activities.

Down syndrome (except for mosaic Down syndrome, which is to be evaluated under listing 110.07) established by clinical findings, including the characteristic physical features, and laboratory evidence is considered to meet the requirement of listing 110.06 commencing at birth. Examples of disorders that should be evaluated under listing 110.07 include mosaic Down Syndrome and chromosomal abnormalities other than Down syndrome, in which a pattern of multiple impairments (including mental retardation) is known to occur, phenylketonuria (PKU), fetal alcohol syndrome, and severe chronic neonatal infections such as toxoplasmosis, rubella syndrome, cytomegalic inclusion disease, and herpes encephalitis.

B. Documentation must include confirmation of a positive diagnosis by a clinical description of the usual abnormal physical findings associated with the condition and definitive laboratory tests, including chromosomal analysis, where appropriate (e.g., Down Syndrome). Medical evidence that is persuasive that a positive diagnosis has been confirmed by appropriate laboratory testing, at some time prior to evaluation, is acceptable in lieu of a copy of the actual laboratory report.

C. When multiple body system manifestations do not meet one of the established criteria of one of the listings, the combined impairments must be evaluated together to determine if they are equal in severity to a listed impairment.

110.01 Category of Impairments, Multiple Body Systems

110.06 ***Down syndrome (excluding mosaic Down syndrome)*** established by clinical and laboratory findings, as described in 110.00B. Consider the child disabled from birth.

110.07 ***Multiple body dysfunction*** due to any confirmed (see 110.00B) hereditary, congenital, or acquired condition with one of the following:

A. Persistent motor dysfunction as a result of hypotonia and/or musculoskeletal weakness, postural reaction deficit, abnormal primitive reflexes, or other neurological impairment as described in 111.00C, and with significant interference with age-appropriate major daily or

personal care activities, which in an infant or young child include such activities as head control, swallowing, following, reaching, grasping, turning, sitting, crawling, walking, taking solids, feeding self; or

B. Mental impairment as described under the criteria in 112.05 or 112.12; or

C. Growth impairment as described under the criteria in 100.02A or B; or

D. Significant interference with communication due to speech, hearing, or visual impairments as described under the criteria in 102.00 and 111.09; or

E. Cardiovascular impairments as described under the criteria in 104.00; or

F. Other impairments such as, but not limited to malnutrition, hypothyroidism, or seizures should be evaluated under the criteria in 105.08, 109.02 or 111.02 and 111.03, or the criteria for the affected body system.

110.08 ***Catastrophic congenital abnormalities or disease****.* With

A. A positive diagnosis (such as anencephaly, trisomy D or E, cyclopia, etc.), generally regarded as being incompatible with extrauterine life; or

B. A positive diagnosis (such as cri du chat, Tay-Sachs Disease) wherein attainment of the growth and development level of 2 years is not expected to occur.

111.00 Neurological.

A. *Convulsive epilepsy* must be substantiated by at least one detailed description of a typical seizure. Report of recent documentation should include a neurological examination with frequency of episodes and any associated phenomena substantiated.

Young children may have convulsions in association with febrile illnesses. Proper use of 111.02 and 111.03 requires that epilepsy be established. Although this does not exclude consideration of seizures occurring during febrile illnesses, it does require documentation of seizures during nonfebrile periods.

There is an expected delay in control of epilepsy when treatment is started, particularly when changes in the treatment regimen are necessary. Therefore, an epileptic disorder should not be considered to meet the requirements of 111.02 or 111.03 unless it is shown that convulsive episodes have persisted more than three months after prescribed therapy began.

B. *Nonconvulsive epilepsy.* Classical petit mal seizures must be documented by characteristic EEG pattern, plus information as to age at onset and frequency of clinical seizures. Myoclonic seizures, whether of the typical infantile or Lennox-gastaut variety after infancy, must also be documented by the characteristic EEG pattern plus information as to age at onset and frequency of seizures.

C. *Motor dysfunction.* As described in 111.06, motor dysfunction may be due to any neurological disorder. It may be due to static or progressive conditions involving any area of the nervous system and producing any type of neurological impairment. This may include weakness, spasticity, lack of coordination, ataxia, tremor, athetosis, or sensory loss.

Documentation of motor dysfunction must include neurologic findings and description of type of neurologic abnormality (e.g., spasticity, weakness), as well as a description of the child's functional impairment (i.e., what the child is unable to do because of the abnormality). Where a diagnosis has been made, evidence should be included for substantiation of the diagnosis (e.g., blood chemistries and muscle biopsy reports), wherever applicable.

D. *Impairment of communication.* The documentation should include a description of a recent comprehensive evaluation including all areas of affective and effective communication, performed by a qualified professional.

111.01 Category of Impairments, Neurological

111.02 ***Major motor seizure disorder***

A. *Convulsive epilepsy.* In a child with an established diagnosis of epilepsy, the occurrence of more than one major motor seizure per month despite at least 3 months of prescribed treatment. With:

1. Daytime episodes (loss of consciousness and convulsive seizures); or

2. Nocturnal episodes manifesting residuals which interfere with activity during the day.

B. *Convulsive epilepsy syndrome.* In a child with an established diagnosis of epilepsy, the occurrence of at least one major motor seizure in the year prior to application despite at least three months of prescribed treatment. And one of the following:

1. IQ of 70 or less; or

2. Significant interference with communication due to speech, hearing, or visual defect; or

3. Significant mental disorder; or

4. Where significant adverse effects of medication interfere with major daily activities.

111.03 ***Nonconvulsive epilepsy****.* In a child with an established seizure disorder, the occurrence of more than one minor motor seizure per week, with alteration of awareness or loss of consciousness, despite at least 3 months of prescribed treatment.

111.05 ***Brain tumors***

A. *Malignant* gliomas (astrocytoma - Grades III and IV, glioblastoma multiforme), medulloblastoma, ependymoblastoma, primary sarcoma, or brain stem gliomas; or

B. Evaluate other brain tumors under the criteria for the resulting neurological impairment.

111.06 ***Motor dysfunction (due to any neurological disorder)*** Persistent disorganization or deficit of motor function for age involving two extremities, which (despite prescribed therapy) interferes with age-appropriate major daily activities and results in disruption of:

A. Fine and gross movements; or

B. Gait and station.

111.07 ***Cerebral palsy*** with:

A. Motor dysfunction meeting the requirements of 101.02 or 111.06; or

B. Less severe motor dysfunction (but more than slight) and one of the following:

1. IQ of 70 or less; or

2. Seizure disorder, with at least one major motor seizure in the year prior to application; or

3. Significant interference with communication due to speech, hearing, or visual defect; or

4. Significant emotional disorder.

111.08 ***Meningomyelocele (and related disorders)***. With one of the following despite prescribed treatment:

A. Motor dysfunction meeting the requirements of 101.02 or 111.06; or

B. Less severe motor dysfunction (but more than slight), and:

1. Urinary or fecal incontinence when inappropriate for age; or

2. IQ of 70 or less; or

C. Four extremity involvement; or

D. Noncompensated hydrocephalus producing interference with mental or motor developmental progression.

111.09 ***Communication impairment associated*** *with documented neurological disorder.* And one of the following:

A. Documented speech deficit which significantly affects the clarity and content of the speech; or

B. Documented comprehension deficit resulting in ineffective verbal communication for age; or

C. Impairment of hearing as described under the criteria in 102.08.

112.00 Mental Disorders

A. *Introduction*: The structure of the mental disorders listings for children under age 18 parallels the structure for the mental disorders listings for adults but is modified to reflect the presentation of mental disorders in children. The listings for mental disorders in children are arranged in 11 diagnostic categories: Organic mental disorders (112.02); schizophrenic, delusional (paranoid), schizoaffective, and other psychotic disorders (112.03); mood disorders

(112.04); mental retardation (112.05); anxiety disorders (112.06); somatoform, eating, and tic disorders (112.07); personality disorders (112.08); psychoactive substance dependence disorders (112.09); autistic disorder and other pervasive developmental disorders (112.10); attention deficit hyperactivity disorder (112.11); and developmental and emotional disorders of newborn and younger infants (112.12).

There are significant differences between the listings for adults and the listings for children. There are disorders found in children that have no real analogy in adults; hence, the differences in the diagnostic categories for children. The presentation of mental disorders in children, particularly the very young child, may be subtle and of a character different from the signs and symptoms found in adults. For example, findings such as separation anxiety, failure to mold or bond with the parents, or withdrawal may serve as findings comparable to findings that mark mental disorders in adults. The activities appropriate to children, such as learning, growing, playing, maturing, and school adjustment, are also different from the activities appropriate to the adult and vary widely in the different childhood stages.

Each listing begins with an introductory statement that describes the disorder or disorders addressed by the listing. This is followed (except in listings 112.05 and 112.12) by paragraph A criteria (a set of medical findings) and paragraph B criteria (a set of impairment-related functional limitations). An individual will be found to have a listed impairment when the criteria of both paragraphs A and B of the listed impairment are satisfied.

The purpose of the criteria in paragraph A is to substantiate medically the presence of a particular mental disorder. Specific symptoms and signs under any of the listings 112.02 through 112.12 cannot be considered in isolation from the description of the mental disorder contained at the beginning of each listing category. Impairments should be analyzed or reviewed under the mental category(ies) indicated by the medical findings.
Paragraph A of the listings is a composite of medical findings which are used to substantiate the existence of a disorder and may or may not be appropriate for children at specific developmental stages. However, a range of medical findings is included in the listings so that no age group is excluded. For example, in listing 112.02A7, emotional lability and crying would be inappropriate criteria to apply to older infants and toddlers, age 1 to attainment of age 3; whereas in listing 112.02A1, developmental arrest, delay, or regression are appropriate criteria for older infants and toddlers. Whenever the adjudicator decides that the requirements of paragraph A of a particular mental listing are satisfied, then that listing should be applied regardless of the age of the child to be evaluated.

The purpose of the paragraph B criteria is to describe impairment-related functional limitations which are applicable to children. Standardized tests of social or cognitive function and adaptive behavior are frequently available and appropriate for the evaluation of children and, thus, such tests are included in the paragraph B functional parameters. The functional restrictions in paragraph B must be the result of the mental disorder which is manifested by the medical findings in paragraph A.

We did not include separate C criteria for listings 112.02, 112.03, 112.04, and 112.06, as are found in the adult listings, because for the most part we do not believe that the residual disease processes described by these listings are commonly found in children. However, in unusual cases where these disorders are found in children and are comparable to the severity and duration found in adults, we may use the adult listings 12.02C, 12.03C, 12.04C, and 12.06C criteria to evaluate such cases.

The structure of the listings for Mental Retardation (112.05) and Developmental and Emotional Disorders of Newborn and Younger Infants (112.12) is different from that of the other mental disorders. Listing 112.05 (Mental Retardation) contains six sets of criteria. If an impairment satisfies the diagnostic description in the introductory paragraph and any one of the six sets of criteria, we will find that the child's impairment meets the listing. For listings 112.05D and 112.05F, we will assess the degree of functional limitation the additional impairment(s) imposes to determine if it causes more than minimal functional limitations, i.e., is a “severe” impairment(s), as defined in § 416.924(c). If the additional impairment(s) does not cause limitations that are "severe" as defined in § 416.924(c), we will not find that the additional impairment(s) imposes an additional and significant limitation of function. Listing 112.12 (Developmental and Emotional Disorders of Newborn and Younger Infants) contains five criteria, any one of which, if satisfied, will result in a finding that the infant's impairment meets the listing.

It must be remembered that these listings are examples of common mental disorders that are severe enough to find a child disabled. When a child has a medically determinable impairment that is not listed, an impairment that does not meet the requirements of a listing, or a combination of impairments no one of which meets the requirements of a listing, we will make a determination whether the child's impairment(s) medically or functionally equals the listings. (See §§ 404.1526, 416.926, and 416.926a.) This determination can be especially important in older infants and toddlers (age 1 to attainment of age 3), who may be too young for identification of a specific diagnosis, yet demonstrate serious functional limitations. Therefore, the determination of equivalency is necessary to the evaluation of any child's case when the child does not have an impairment that meets a listing.

B. *Need for medical evidence*: The existence of a medically determinable impairment of the required duration must be established by medical evidence consisting of symptoms, signs, and laboratory findings (including psychological or developmental test findings). Symptoms are complaints presented by the child. Psychiatric signs are medically demonstrable phenomena that indicate specific psychological abnormalities, e.g., abnormalities of behavior, mood, thought, memory, orientation, development, or perception, as described by an appropriate medical source. Symptoms and signs generally cluster together to constitute recognizable mental disorders described in paragraph A of the listings. These findings may be intermittent or continuous depending on the nature of the disorder.

C. *Assessment of severity*: In childhood cases, as with adults, severity is measured according to the functional limitations imposed by the medically determinable mental impairment. However, the range of functions used to assess impairment severity for children varies at different stages of maturation. The functional areas that we consider are: Motor function; cognitive/communicative function; social function; personal function; and concentration, persistence, or pace. In most functional areas, there are two alternative methods of documenting the required level of severity: (1) Use of standardized tests alone, where appropriate test instruments are available, and (2) use of other medical findings. (See 112.00D for explanation of these documentation requirements.) The use of standardized tests is the preferred method of documentation if such tests are available.

Newborn and younger infants (birth to attainment of age 1) have not developed sufficient personality differentiation to permit formulation of appropriate diagnoses. We have, therefore, assigned listing 112.12 for Developmental and Emotional Disorders of Newborn and Younger Infants for the evaluation of mental disorders of such children. Severity of these disorders is

based on measures of development in motor, cognitive/communicative, and social functions. When older infants and toddlers (age 1 to attainment of age 3) do not clearly satisfy the paragraph A criteria of any listing because of insufficient developmental differentiation, they must be evaluated under the rules for equivalency. The principles for assessing the severity of impairment in such children, described in the following paragraphs, must be employed.

Generally, when we assess the degree of developmental delay imposed by a mental impairment, we will use an infant's or toddler's chronological age; i.e., the child's age based on birth date. If the infant or toddler was born prematurely, however, we will follow the rules in § 416.924b(b) to determine whether we should use the infant's or toddler's corrected chronological age; i.e., the chronological age adjusted by the period of gestational prematurity.

In defining the severity of functional limitations, two different sets of paragraph B criteria corresponding to two separate age groupings have been established, in addition to listing 112.12, which is for children who have not attained age 1. These age groups are: older infants and toddlers (age 1 to attainment of age 3) and children (age 3 to attainment of age 18). However, the discussion below in 112.00C1, 2, 3, and 4, on the age-appropriate areas of function, is broken down into four age groupings: older infants and toddlers (age 1 to attainment of age 3), preschool children (age 3 to attainment of age 6), primary school children (age 6 to attainment of age 12), and adolescents (age 12 to attainment of age 18). This was done to provide specific guidance on the age group variances in disease manifestations and methods of evaluation.

Where "marked" is used as a standard for measuring the degree of limitation it means more than moderate but less than extreme. A marked limitation may arise when several activities or functions are impaired, or even when only one is impaired, as long as the degree of limitation is such as to interfere seriously with the ability to function (based upon age-appropriate expectations) independently, appropriately, effectively, and on a sustained basis. When standardized tests are used as the measure of functional parameters, a valid score that is two standard deviations below the norm for the test will be considered a marked restriction.

1. *Older infants and toddlers (age 1 to attainment of age 3)*. In this age group, impairment severity is assessed in three areas: (a) Motor development, (b) cognitive/communicative function, and (c) social function.
a. *Motor development*. Much of what we can discern about mental function in these children frequently comes from observation of the degree of development of fine and gross motor function. Developmental delay, as measured by a good developmental milestone history confirmed by medical examination, is critical. This information will ordinarily be available in the existing medical evidence from the claimant's treating sources and other medical sources, supplemented by information from nonmedical sources, such as parents, who have observed the child and can provide pertinent historical information. It may also be available from standardized testing. If the delay is such that the older infant or toddler has not achieved motor development generally acquired by children no more than one-half the child's chronological age, the criteria are satisfied.

b. *Cognitive/communicative function*. Cognitive/communicative function is measured using one of several standardized infant scales. Appropriate tests for the measure of such function are discussed in 112.00D. Screening instruments may be useful in uncovering potentially serious impairments, but often must be supplemented by other data. However, in some cases, the results of screening tests may show such obvious abnormalities that further testing will clearly be unnecessary.

For older infants and toddlers, alternative criteria covering disruption in communication as measured by their capacity to use simple verbal and nonverbal structures to communicate basic needs are provided.

c. *Social function*. Social function in older infants and toddlers is measured in terms of the development of relatedness to people (e.g., bonding and stranger anxiety) and attachment to animate or inanimate objects. Criteria are provided that use standard social maturity scales or alternative criteria that describe marked impairment in socialization.

2. *Preschool children (age 3 to attainment of age 6)*. For the age groups including preschool children through adolescence, the functional areas used to measure severity are: (a) Cognitive/communicative function, (b) social function, (c) personal function, and (d) deficiencies of concentration, persistence, or pace resulting in frequent failure to complete tasks in a timely manner. After 36 months, motor function is no longer felt to be a primary determinant of mental function, although, of course, any motor abnormalities should be documented and evaluated.

a. *Cognitive/communicative function*. In the preschool years and beyond, cognitive function can be measured by standardized tests of intelligence, although the appropriate instrument may vary with age. A primary criterion for limited cognitive function is a valid verbal, performance, or full scale IQ of 70 or less. The listings also provide alternative criteria, consisting of tests of language development or bizarre speech patterns.

b. *Social function*. Social functioning refers to a child's capacity to form and maintain relationships with parents, other adults, and peers. Social functioning includes the ability to get along with others (e.g., family members, neighborhood friends, classmates, teachers). Impaired social functioning may be caused by inappropriate externalized actions (e.g., running away, physical aggression--but not self-injurious actions, which are evaluated in the personal area of functioning), or inappropriate internalized actions (e.g., social isolation, avoidance of interpersonal activities, mutism). Its severity must be documented in terms of intensity, frequency, and duration, and shown to be beyond what might be reasonably expected for age. Strength in social functioning may be documented by such things as the child's ability to respond to and initiate social interaction with others, to sustain relationships, and to participate in group activities. Cooperative behaviors, consideration for others, awareness of others' feelings, and social maturity, appropriate to a child's age, also need to be considered. Social functioning in play and school may involve interactions with adults, including responding appropriately to persons in authority (e.g., teachers, coaches) or cooperative behaviors involving other children. Social functioning is observed not only at home but also in preschool programs.

c. *Personal function*. Personal functioning in preschool children pertains to self-care; i.e., personal needs, health, and safety (feeding, dressing, toileting, bathing; maintaining personal hygiene, proper nutrition, sleep, health habits; adhering to medication or therapy regimens; following safety precautions). Development of self-care skills is measured in terms of the child's increasing ability to help himself/herself and to cooperate with others in taking care of these needs. Impaired ability in this area is manifested by failure to develop such skills, failure to use them, or self-injurious actions. This function may be documented by a standardized test of adaptive behavior or by a careful description of the full range of self-care activities. These activities are often observed not only at home but also in preschool programs.

d. *Concentration, persistence, or pace*. This function may be measured through observations of the child in the course of standardized testing and in the course of play.

3. *Primary school children (age 6 to attainment of age 12)*. The measures of function here are similar to those for preschool-age children except that the test instruments may change and the capacity to function in the school setting is supplemental information. Standardized measures of academic achievement, e.g., Wide Range Achievement Test-Revised, Peabody Individual Achievement Test, etc., may be helpful in assessing cognitive impairment. Problems in social functioning, especially in the area of peer relationships, are often observed firsthand by teachers and school nurses. As described in 112.00D, *Documentation*, school records are an excellent source of information concerning function and standardized testing and should always be sought for school-age children.

As it applies to primary school children, the intent of the functional criterion described in paragraph B2d, i.e., deficiencies of concentration, persistence, or pace resulting in failure to complete tasks in a timely manner, is to identify the child who cannot adequately function in primary school because of a mental impairment. Although grades and the need for special education placement are relevant factors which must be considered in reaching a decision under paragraph B2d, they are not conclusive. There is too much variability from school district to school district in the expected level of grading and in the criteria for special education placement to justify reliance solely on these factors.

4. *Adolescents (age 12 to attainment of age 18)*. Functional criteria parallel to those for primary school children (cognitive/ communicative; social; personal; and concentration, persistence, or pace) are the measures of severity for this age group. Testing instruments appropriate to adolescents should be used where indicated. Comparable findings of disruption of social function must consider the capacity to form appropriate, stable, and lasting relationships. If information is available about cooperative working relationships in school or at part-time or full-time work, or about the ability to work as a member of a group, it should be considered when assessing the child's social functioning. Markedly impoverished social contact, isolation, withdrawal, and inappropriate or bizarre behavior under the stress of socializing with others also constitute comparable findings. (Note that self-injurious actions are evaluated in the personal area of functioning.)

a. Personal functioning in adolescents pertains to self-care. It is measured in the same terms as for younger children, the focus, however, being on the adolescent's ability to take care of his or her own personal needs, health, and safety without assistance. Impaired ability in this area is manifested by failure to take care of these needs or by self-injurious actions. This function may be documented by a standardized test of adaptive behavior or by careful descriptions of the full range of self-care activities.

b. In adolescents, the intent of the functional criterion described in paragraph B2d is the same as in primary school children. However, other evidence of this functional impairment may also be available, such as from evidence of the child's performance in work or work-like settings.

D. *Documentation*:

1. The presence of a mental disorder in a child must be documented on the basis of reports from acceptable sources of medical evidence. See §§ 404.1513 and 416.913. Descriptions of functional limitations may be available from these sources, either in the form of standardized test results or in other medical findings supplied by the sources, or both. (Medical findings

consist of symptoms, signs, and laboratory findings.) Whenever possible, a medical source's findings should reflect the medical source's consideration of information from parents or other concerned individuals who are aware of the child's activities of daily living, social functioning, and ability to adapt to different settings and expectations, as well as the medical source's findings and observations on examination, consistent with standard clinical practice. As necessary, information from nonmedical sources, such as parents, should also be used to supplement the record of the child's functioning to establish the consistency of the medical evidence and longitudinality of impairment severity.

2. For some newborn and younger infants, it may be very difficult to document the presence or severity of a mental disorder. Therefore, with the exception of some genetic diseases and catastrophic congenital anomalies, it may be necessary to defer making a disability decision until the child attains 3 months of age in order to obtain adequate observation of behavior or affect. See, also, 110.00 of this part. This period could be extended in cases of premature infants depending on the degree of prematurity and the adequacy of documentation of their developmental and emotional status.

3. For infants and toddlers, programs of early intervention involving occupational, physical, and speech therapists, nurses, social workers, and special educators, are a rich source of data. They can provide the developmental milestone evaluations and records on the fine and gross motor functioning of these children. This information is valuable and can complement the medical examination by a physician or psychologist. A report of an interdisciplinary team that contains the evaluation and signature of an acceptable medical source is considered acceptable medical evidence rather than supplemental data.

4. In children with mental disorders, particularly those requiring special placement, school records are a rich source of data, and the required reevaluations at specified time periods can provide the longitudinal data needed to trace impairment progression over time.

5. In some cases where the treating sources lack expertise in dealing with mental disorders of children, it may be necessary to obtain evidence from a psychiatrist, psychologist, or pediatrician with experience and skill in the diagnosis and treatment of mental disorders as they appear in children. In these cases, however, every reasonable effort must be made to obtain the records of the treating sources, since these records will help establish a longitudinal picture that cannot be established through a single purchased examination.

6. Reference to a "standardized psychological test" indicates the use of a psychological test measure that has appropriate validity, reliability, and norms, and is individually administered by a qualified specialist. By "qualified," we mean the specialist must be currently licensed or certified in the State to administer, score, and interpret psychological tests and have the training and experience to perform the test.

7. Psychological tests are best considered as standardized sets of tasks or questions designed to elicit a range of responses. Psychological testing can also provide other useful data, such as the specialist's observations regarding the child's ability to sustain attention and concentration, relate appropriately to the specialist, and perform tasks independently (without prompts or reminders). Therefore, a report of test results should include both the objective data and any clinical observations.

8. The salient characteristics of a good test are: (1) Validity, i.e., the test measures what it is supposed to measure; (2) reliability, i.e., the consistency of results obtained over time with the

same test and the same individual; (3) appropriate normative data, i.e., individual test scores can be compared to test data from other individuals or groups of a similar nature, representative of that population; and (4) wide scope of measurement, i.e., the test should measure a broad range of facets/aspects of the domain being assessed. In considering the validity of a test result, we should note and resolve any discrepancies between formal test results and the child's customary behavior and daily activities.

9. Identical IQ scores obtained from different tests do not always reflect a similar degree of intellectual functioning. The IQ scores in listing 112.05 reflect values from tests of general intelligence that have a mean of 100 and a standard deviation of 15, e.g., the Wechsler series. IQs obtained from standardized tests that deviate from a mean of 100 and standard deviation of 15 require conversion to a percentile rank so that the actual degree of limitation reflected by the IQ scores can be determined. In cases where more than one IQ is customarily derived from the test administered, e.g., where verbal, performance, and full scale IQs are provided in the Wechsler series, the lowest of these is used in conjunction with listing 112.05.

10. IQ test results must also be sufficiently current for accurate assessment under 112.05. Generally, the results of IQ tests tend to stabilize by the age of 16. Therefore, IQ test results obtained at age 16 or older should be viewed as a valid indication of the child's current status, provided they are compatible with the child's current behavior. IQ test results obtained between ages 7 and 16 should be considered current for 4 years when the tested IQ is less than 40, and for 2 years when the IQ is 40 or above. IQ test results obtained before age 7 are current for 2 years if the tested IQ is less than 40 and 1 year if at 40 or above.

11. Standardized intelligence test results are essential to the adjudication of all cases of mental retardation that are not covered under the provisions of listings 112.05A, 112.05B, and 112.05F. Listings 112.05A, 112.05B, and 112.05F may be the bases for adjudicating cases where the results of standardized intelligence tests are unavailable, e.g., where the child's young age or condition precludes formal standardized testing.

12. In conjunction with clinical examinations, sources may report the results of screening tests, i.e., tests used for gross determination of level of functioning. Screening instruments may be useful in uncovering potentially serious impairments, but often must be supplemented by other data. However, in some cases the results of screening tests may show such obvious abnormalities that further testing will clearly be unnecessary.

13. Where reference is made to developmental milestones, this is defined as the attainment of particular mental or motor skills at an age-appropriate level, i.e., the skills achieved by an infant or toddler sequentially and within a given time period in the motor and manipulative areas, in general understanding and social behavior, in self-feeding, dressing, and toilet training, and in language. This is sometimes expressed as a developmental quotient (DQ), the relation between developmental age and chronological age as determined by specific standardized measurements and observations. Such tests include, but are not limited to, the Cattell Infant Intelligence Scale, the Bayley Scales of Infant Development, and the Revised Stanford-Binet. Formal tests of the attainment of developmental milestones are generally used in the clinical setting for determination of the developmental status of infants and toddlers.

14. Formal psychological tests of cognitive functioning are generally in use for preschool children, for primary school children, and for adolescents except for those instances noted below.

15. Generally, it is preferable to use IQ measures that are wide in scope and include items that test both verbal and performance abilities. However, in special circumstances, such as the assessment of children with sensory, motor, or communication abnormalities, or those whose culture and background are not principally English-speaking, measures such as the Test of Nonverbal Intelligence, Third Edition (TONI-3), Leiter International Performance Scale-Revised (Leiter-R), or Peabody Picture Vocabulary Test-Third Edition (PPVT-III) may be used.

16. We may consider exceptions to formal standardized psychological testing when an individual qualified by training and experience to perform such an evaluation is not available, or in cases where appropriate standardized measures for the child's social, linguistic, and cultural background are not available. In these cases, the best indicator of severity is often the level of adaptive functioning and how the child performs activities of daily living and social functioning.

17. Comprehensive neuropsychological examinations may be used to establish the existence and extent of compromise of brain function, particularly in cases involving organic mental disorders. Normally these examinations include assessment of cerebral dominance, basic sensation and perception, motor speed and coordination, attention and concentration, visual-motor function, memory across verbal and visual modalities, receptive and expressive speech, higher-order linguistic operations, problem-solving, abstraction ability, and general intelligence. In addition, there should be clinical interview geared toward evaluating pathological features known to occur frequently in neurological disease and trauma, e.g., emotional lability, abnormality of mood, impaired impulse control, passivity and apathy, or inappropriate social behavior. The specialist performing the examination may administer one of the commercially available comprehensive neuropsychological batteries, such as the Luria-Nebraska or Halstead-Reitan, or a battery of tests selected as relevant to the suspected brain dysfunction. The specialist performing the examination must be properly trained in this area of neuroscience.

E. *Effect of hospitalization or residential placement*: As with adults, children with mental disorders may be placed in a variety of structured settings outside the home as part of their treatment. Such settings include, but are not limited to, psychiatric hospitals, developmental disabilities facilities, residential treatment centers and schools, community-based group homes, and workshop facilities. The reduced mental demands of such structured settings may attenuate overt symptomatology and superficially make the child’s level of adaptive functioning appear better than it is. Therefore, the capacity of the child to function outside highly structured settings must be considered in evaluating impairment severity. This is done by determining the degree to which the child can function (based upon age-appropriate expectations) independently, appropriately, effectively, and on a sustained basis outside the highly structured setting.

On the other hand, there may be a variety of causes for placement of a child in a structured setting which may or may not be directly related to impairment severity and functional ability. Placement in a structured setting in and of itself does not equate with a finding of disability. The severity of the impairment must be compared with the requirements of the appropriate listing.

F. *Effects of medication*: Attention must be given to the effect of medication on the child’s signs, symptoms, and ability to function. While drugs used to modify psychological functions and mental states may control certain primary manifestations of a mental disorder, e.g., hallucinations, impaired attention, restlessness, or hyperactivity, such treatment may not affect all functional limitations imposed by the mental disorder. In cases where overt symptomatology is attenuated by the use of such drugs, particular attention must be focused on the functional

limitations that may persist. These functional limitations must be considered in assessing impairment severity.

Psychotropic medicines used in the treatment of some mental illnesses may cause drowsiness, blunted affect, or other side effects involving other body systems. Such side effects must be considered in evaluating overall impairment severity.

112.01 Category of Impairments, Mental

112.02 ***Organic mental disorders***: Abnormalities in perception, cognition, affect, or behavior associated with dysfunction of the brain. The history and physical examination or laboratory tests, including psychological or neuropsychological tests, demonstrate or support the presence of an organic factor judged to be etiologically related to the abnormal mental state and associated deficit or loss of specific cognitive abilities, or affective changes, or loss of previously acquired functional abilities.

The required level of severity for these disorders is met when the requirements in both A and B are satisfied.

A. Medically documented persistence of at least one of the following:

1. Developmental arrest, delay or regression; or

2. Disorientation to time and place; or

3. Memory impairment, either short-term (inability to learn new information), intermediate, or long-term (inability to remember information that was known sometime in the past); or

4. Perceptual or thinking disturbance (e.g., hallucinations, delusions, illusions, or paranoid thinking); or

5. Disturbance in personality (e.g., apathy, hostility); or

6. Disturbance in mood (e.g., mania, depression); or

7. Emotional lability (e.g., sudden crying); or

8. Impairment of impulse control (e.g., disinhibited social behavior, explosive temper outbursts); or

9. Impairment of cognitive function, as measured by clinically timely standardized psychological testing; or

10. Disturbance of concentration, attention, or judgment;

AND

B. Select the appropriate age group to evaluate the severity of the impairment:

1. For older infants and toddlers (age 1 to attainment of age 3), resulting in at least one of the following:

a. Gross or fine motor development at a level generally acquired by children no more than one-half the child's chronological age, documented by:

(1) An appropriate standardized test; or
(2) Other medical findings (see 112.00C); or

b. Cognitive/communicative function at a level generally acquired by children no more than one-half the child's chronological age, documented by:

(1) An appropriate standardized test; or
(2) Other medical findings of equivalent cognitive/communicative abnormality, such as the inability to use simple verbal or nonverbal behavior to communicate basic needs or concepts; or

c. Social function at a level generally acquired by children no more than one-half the child's chronological age, documented by:

(1) An appropriate standardized test; or
(2) Other medical findings of an equivalent abnormality of social functioning, exemplified by serious inability to achieve age-appropriate autonomy as manifested by excessive clinging or extreme separation anxiety; or

d. Attainment of development or function generally acquired by children no more than two-thirds of the child's chronological age in two or more areas covered by a., b., or c., as measured by an appropriate standardized test or other appropriate medical findings.

2. For children (age 3 to attainment of age 18), resulting in at least two of the following:

a. Marked impairment in age-appropriate cognitive/communicative function, documented by medical findings (including consideration of historical and other information from parents or other individuals who have knowledge of the child, when such information is needed and available) and including, if necessary, the results of appropriate standardized psychological tests, or for children under age 6, by appropriate tests of language and communication; or
b. Marked impairment in age-appropriate social functioning, documented by history and medical findings (including consideration of information from parents or other individuals who have knowledge of the child, when such information is needed and available) and including, if necessary, the results of appropriate standardized tests; or

c. Marked impairment in age-appropriate personal functioning, documented by history and medical findings (including consideration of information from parents or other individuals who have knowledge of the child, when such information is needed and available) and including, if necessary, appropriate standardized tests; or

d. Marked difficulties in maintaining concentration, persistence, or pace.

112.03 ***Schizophrenic, delusional (paranoid), schizoaffective, and other psychotic disorders***: Onset of psychotic features, characterized by a marked disturbance of thinking, feeling, and behavior, with deterioration from a previous level of functioning or failure to achieve the expected level of social functioning. The required level of severity for these disorders is met when the requirements in both A and B are satisfied.

A. Medically documented persistence, for at least 6 months, either continuous or intermittent, of one or more of the following:

1. Delusions or hallucinations; or

2. Catatonic, bizarre, or other grossly disorganized behavior; or

3. Incoherence, loosening of associations, illogical thinking, or poverty of content of speech; or

4. Flat, blunt, or inappropriate affect; or

5. Emotional withdrawal, apathy, or isolation;

AND

B. For older infants and toddlers (age 1 to attainment of age 3), resulting in at least one of the appropriate age-group criteria in paragraph B1 of 112.02; or, for children (age 3 to attainment of age 18), resulting in at least two of the appropriate age-group criteria in paragraph B2 of 112.02.

112.04 ***Mood disorders***: Characterized by a disturbance of mood (referring to a prolonged emotion that colors the whole psychic life, generally involving either depression or elation), accompanied by a full or partial manic or depressive syndrome.

The required level of severity for these disorders is met when the requirements in both A and B are satisfied.

A. Medically documented persistence, either continuous or intermittent, of one of the following:

1. Major depressive syndrome, characterized by at least five of the following, which must include either depressed or irritable mood or markedly diminished interest or pleasure:

a. Depressed or irritable mood; or

b. Markedly diminished interest or pleasure in almost all activities; or

c. Appetite or weight increase or decrease, or failure to make expected weight gains; or

d. Sleep disturbance; or

e. Psychomotor agitation or retardation; or

f. Fatigue or loss of energy; or

g. Feelings of worthlessness or guilt; or

h. Difficulty thinking or concentrating; or

i. Suicidal thoughts or acts; or

j. Hallucinations, delusions, or paranoid thinking;

OR

2. Manic syndrome, characterized by elevated, expansive, or irritable mood, and at least three of the following:

a. Increased activity or psychomotor agitation; or

b. Increased talkativeness or pressure of speech; or

c. Flight of ideas or subjectively experienced racing thoughts; or

d. Inflated self-esteem or grandiosity; or

e. Decreased need for sleep; or

f. Easy distractibility; or

g. Involvement in activities that have a high potential of painful consequences which are not recognized; or

h. Hallucinations, delusions, or paranoid thinking;

OR

3. Bipolar or cyclothymic syndrome with a history of episodic periods manifested by the full symptomatic picture of both manic and depressive syndromes (and currently or most recently characterized by the full or partial symptomatic picture of either or both syndromes);

AND

B. For older infants and toddlers (age 1 to attainment of age 3), resulting in at least one of the appropriate age-group criteria in paragraph B1 of 112.02; or, for children (age 3 to attainment of age 18), resulting in at least two of the appropriate age-group criteria in paragraph B2 of 112.02.

112.05 ***Mental retardation***: Characterized by significantly subaverage general intellectual functioning with deficits in adaptive functioning.

The required level of severity for this disorder is met when the requirements in A, B, C, D, E, or F are satisfied.

A. For older infants and toddlers (age 1 to attainment of age 3), resulting in at least one of the appropriate age-group criteria in paragraph B1 of 112.02; or, for children (age 3 to attainment of age 18), resulting in at least two of the appropriate age-group criteria in paragraph B2 of 112.02;

OR

B. Mental incapacity evidenced by dependence upon others for personal needs (grossly in excess of age-appropriate dependence) and inability to follow directions such that the use of standardized measures of intellectual functioning is precluded;
OR

C. A valid verbal, performance, or full scale IQ of 59 or less;

OR

D. A valid verbal, performance, or full scale IQ of 60 through 70 and a physical or other mental impairment imposing an additional and significant limitation of function;

OR

E. A valid verbal, performance, or full scale IQ of 60 through 70 and:

1. For older infants and toddlers (age 1 to attainment of age 3), resulting in attainment of development or function generally acquired by children no more than two-thirds of the child's chronological age in either of paragraphs B1a or B1c of 112.02; or

2. For children (age 3 to attainment of age 18), resulting in at least one of paragraphs B2b or B2c or B2d of 112.02;
OR

F. Select the appropriate age group:

1. For older infants and toddlers (age 1 to attainment of age 3), resulting in attainment of development or function generally acquired by children no more than two-thirds of the child's chronological age in paragraph B1b of 112.02, and a physical or other mental impairment imposing an additional and significant limitation of function;

OR

2. For children (age 3 to attainment of age 18), resulting in the satisfaction of 112.02B2a, and a physical or other mental impairment imposing an additional and significant limitation of function.

112.06 ***Anxiety disorders***: In these disorders, anxiety is either the predominant disturbance or is experienced if the individual attempts to master symptoms; e.g., confronting the dreaded object or situation in a phobic disorder, attempting to go to school in a separation anxiety disorder, resisting the obsessions or compulsions in an obsessive compulsive disorder, or confronting strangers or peers in avoidant disorders.

The required level of severity for these disorders is met when the requirements in both A and B are satisfied.

A. Medically documented findings of at least one of the following:

1. Excessive anxiety manifested when the child is separated, or separation is threatened, from a parent or parent surrogate; or

2. Excessive and persistent avoidance of strangers; or

3. Persistent unrealistic or excessive anxiety and worry (apprehensive expectation), accompanied by motor tension, autonomic hyperactivity, or vigilance and scanning; or

4. A persistent irrational fear of a specific object, activity, or situation which results in a compelling desire to avoid the dreaded object, activity, or situation; or

5. Recurrent severe panic attacks, manifested by a sudden unpredictable onset of intense apprehension, fear, or terror, often with a sense of impending doom, occurring on the average of at least once a week; or

6. Recurrent obsessions or compulsions which are a source of marked distress; or

7. Recurrent and intrusive recollections of a traumatic experience, including dreams, which are a source of marked distress;
AND

B. For older infants and toddlers (age 1 to attainment of age 3), resulting in at least one of the appropriate age-group criteria in paragraph B1 of 112.02; or, for children (age 3 to attainment of age 18), resulting in at least two of the appropriate age-group criteria in paragraph B2 of 112.02.

112.07 ***Somatoform, eating, and tic disorders***: Manifested by physical symptoms for which there are no demonstrable organic findings or known physiologic mechanisms; or eating or tic disorders with physical manifestations.

The required level of severity for these disorders is met when the requirements in both A and B are satisfied.

A. Medically documented findings of one of the following:

1. An unrealistic fear and perception of fatness despite being underweight, and persistent refusal to maintain a body weight which is greater than 85 percent of the average weight for height and age, as shown in the most recent edition of the *Nelson Textbook of Pediatrics*, Richard E. Behrman and Victor C. Vaughan, III, editors, Philadelphia: W. B. Saunders Company; or

2. Persistent and recurrent involuntary, repetitive, rapid, purposeless motor movements affecting multiple muscle groups with multiple vocal tics; or
3. Persistent non-organic disturbance of one of the following:

a. Vision; or

b. Speech; or

c. Hearing; or

d. Use of a limb; or

e. Movement and its control (e.g., coordination disturbance, psychogenic seizures); or

f. Sensation (diminished or heightened); or

g. Digestion or elimination; or

4. Preoccupation with a belief that one has a serious disease or injury;

AND

B. For older infants and toddlers (age 1 to attainment of age 3), resulting in at least one of the appropriate age-group criteria in paragraph B1 of 112.02; or, for children (age 3 to attainment of age 18), resulting in at least two of the appropriate age-group criteria in paragraph B2 of 112.02.

112.08 ***Personality disorders***: Manifested by pervasive, inflexible, and maladaptive personality traits, which are typical of the child's long-term functioning and not limited to discrete episodes of illness.

The required level of severity for these disorders is met when the requirements in both A and B are satisfied.

A. Deeply ingrained, maladaptive patterns of behavior, associated with one of the following:

1. Seclusiveness or autistic thinking; or

2. Pathologically inappropriate suspiciousness or hostility; or

3. Oddities of thought, perception, speech, and behavior; or

4. Persistent disturbances of mood or affect; or

5. Pathological dependence, passivity, or aggressiveness; or

6. Intense and unstable interpersonal relationships and impulsive and exploitative behavior; or

7. Pathological perfectionism and inflexibility;

AND

B. For older infants and toddlers (age 1 to attainment of age 3), resulting in at least one of the appropriate age-group criteria in paragraph B1 of 112.02; or, for children (age 3 to attainment of age 18), resulting in at least two of the appropriate age-group criteria in paragraph B2 of 112.02.

112.09 ***Psychoactive substance dependence disorders***: Manifested by a cluster of cognitive, behavioral, and physiologic symptoms that indicate impaired control of psychoactive substance use with continued use of the substance despite adverse consequences.

The required level of severity for these disorders is met when the requirements in both A and B are satisfied.

A. Medically documented findings of at least four of the following:

1. Substance taken in larger amounts or over a longer period than intended and a great deal of time is spent in recovering from its effects; or

2. Two or more unsuccessful efforts to cut down or control use; or

3. Frequent intoxication or withdrawal symptoms interfering with major role obligations; or

4. Continued use despite persistent or recurring social, psychological, or physical problems; or

5. Tolerance, as characterized by the requirement for markedly increased amounts of substance in order to achieve intoxication; or

6. Substance taken to relieve or avoid withdrawal symptoms;

AND

B. For older infants and toddlers (age 1 to attainment of age 3), resulting in at least one of the appropriate age-group criteria in paragraph B1 of 112.02; or, for children (age 3 to attainment of age 18), resulting in at least two of the appropriate age-group criteria in paragraph B2 of 112.02.

112.10 ***Autistic disorder and other pervasive developmental disorders***: Characterized by qualitative deficits in the development of reciprocal social interaction, in the development of verbal and nonverbal communication skills, and in imaginative activity. Often, there is a markedly restricted repertoire of activities and interests, which frequently are stereotyped and repetitive.

The required level of severity for these disorders is met when the requirements in both A and B are satisfied.

A. Medically documented findings of the following:

1. For autistic disorder, all of the following:

a. Qualitative deficits in the development of reciprocal social interaction;
and

b. Qualitative deficits in verbal and nonverbal communication and in imaginative activity; and

c. Markedly restricted repertoire of activities and interests;

OR

2. For other pervasive developmental disorders, both of the following:

a. Qualitative deficits in the development of reciprocal social interaction;
and

b. Qualitative deficits in verbal and nonverbal communication and in

imaginative activity;

AND

B. For older infants and toddlers (age 1 to attainment of age 3), resulting in at least one of the appropriate age-group criteria in paragraph B1 of 112.02; or, for children (age 3 to attainment of age 18), resulting in at least two of the appropriate age-group criteria in paragraphs B2 of 112.02.

112.11 ***Attention deficit hyperactivity disorder***: Manifested by developmentally inappropriate degrees of inattention, impulsiveness, and hyperactivity.

The required level of severity for these disorders is met when the requirements in both A and B are satisfied.

A. Medically documented findings of all three of the following:

1. Marked inattention; and

2. Marked impulsiveness; and

3. Marked hyperactivity;

AND

B. For older infants and toddlers (age 1 to attainment of age 3), resulting in at least one of the appropriate age-group criteria in paragraph B1 of 112.02; or, for children (age 3 to attainment of age 18), resulting in at least two of the appropriate age-group criteria in paragraph B2 of 112.02.

112.12 ***Developmental and emotional disorders of newborn and younger infants (birth to attainment of age 1)***: Developmental or emotional disorders of infancy are evidenced by a deficit or lag in the areas of motor, cognitive/communicative, or social functioning. These disorders may be related either to organic or to functional factors or to a combination of these factors.

The required level of severity for these disorders is met when the requirements of A, B, C, D, or E are satisfied.

A. Cognitive/communicative functioning generally acquired by children no more than one-half the child's chronological age, as documented by appropriate medical findings (e.g., in infants 0-6 months, markedly diminished variation in the production or imitation of sounds and severe feeding abnormality, such as problems with sucking, swallowing, or chewing) including, if necessary, a standardized test;

OR

B. Motor development generally acquired by children no more than one-half the child's chronological age, documented by appropriate medical findings, including if necessary, a standardized test;

OR

C. Apathy, over-excitability, or fearfulness, demonstrated by an absent or grossly excessive response to one of the following:

1. Visual stimulation; or

2. Auditory stimulation; or

3. Tactile stimulation;

OR

D. Failure to sustain social interaction on an ongoing, reciprocal basis as evidenced by:

1. Inability by 6 months to participate in vocal, visual, and motoric exchanges (including facial expressions); or
2. Failure by 9 months to communicate basic emotional responses, such as cuddling or exhibiting protest or anger; or

3. Failure to attend to the caregiver's voice or face or to explore an inanimate object for a period of time appropriate to the infant's age;

OR

E. Attainment of development or function generally acquired by children no more than two-thirds of the child's chronological age in two or more areas (i.e., cognitive/ communicative, motor, and social), documented by appropriate medical findings, including if necessary, standardized testing.

113.00 Neoplastic Diseases, Malignant

A. *Introduction.* Determination of disability in the growing and developing child with a malignant neoplastic disease is based upon the combined effects of:

1. The pathophysiology, histology, and natural history of the tumor; and

2. The effects of the currently employed aggressive multimodal therapeutic regimens.

Combinations of surgery, radiation, and chemotherapy or prolonged therapeutic schedules impart significant additional morbidity to the child during the period of greatest risk from the tumor itself. This period of highest risk and greatest therapeutically-induced morbidity defines the limits of disability for most of childhood neoplastic disease.

B. *Documentation.* The diagnosis of neoplasm should be established on the basis of symptoms, signs, and laboratory findings. The site of the primary, recurrent, and metastatic lesion must be specified in all cases of malignant neoplastic diseases. If an operative procedure has been performed, the evidence should include a copy of the operative note and the report of the gross and microscopic examination of the surgical specimen, along with all pertinent laboratory or reports from appropriate medically acceptable imaging. Medically acceptable

imaging includes, but is not limited to, x-ray imaging, computerized axial tomography (CAT scan) or magnetic resonance imaging (MRI), with or without contrast material, myelography, and radionuclear bone scans. "Appropriate" means that the technique used is the proper one to support the evaluation and diagnosis of the impairment. The evidence should also include a recent report directed especially at describing whether there is evidence of local or regional recurrence, soft part or skeletal metastases, and significant post therapeutic residuals.

C. *Malignant solid tumors,* as listed under 113.03, include the histiocytosis syndromes except for solitary eosinophilic granuloma. Thus, 113.03 should not be used for evaluating brain tumors (see 111.05) or thyroid tumors, which must be evaluated on the basis of whether they are controlled by prescribed therapy.

D. *Duration of disability* from malignant neoplastic tumors is included in 113.02 and 113.03. Following the time periods designated in these sections, a documented diagnosis itself is no longer sufficient to establish a severe impairment. The severity of a remaining impairment must be evaluated on the basis of the medical evidence.

113.01 Category of Impairments, Neoplastic Diseases – Malignant

113.02 ***Lymphoreticular malignant neoplasms***

A. Hodgkin's Disease with progressive disease not controlled by prescribed therapy; or

B. Non-Hodgkin's lymphoma. Consider under a disability:

1. For 2 1/2 years from the time of initial diagnosis; or

2. For 2 1/2 years from the time of recurrence of active disease.

113.03 ***Malignant solid tumors***. Consider under a disability:

A. For 2 years from the time of initial diagnosis; or

B. For 2 years from the time of recurrence of active disease.

113.04 ***Neuroblastoma***. With one of the following:

A. Extension across the midline; or

B. Distant metastases; or

C. Recurrence; or

D. Onset at age 1 year or older.

113.05 ***Retinoblastoma***. With one of the following:

A. Bilateral involvement; or

B. Metastases; or

C. Extension beyond the orbit; or

D. Recurrence.

114.00 Immune System

A. Listed disorders include impairments involving deficiency of one or more components of the immune system (i.e., antibody-producing B cells; a number of different types of cells associated with cell-mediated immunity including T-lymphocytes, macrophages and monocytes; and components of the complement system).

B. Dysregulation of the immune system may result in the development of a connective tissue disorder. Connective tissue disorders include several chronic multi-system disorders that differ in their clinical manifestation, course, and outcome. These disorders are described in Part A, 14.00B; inflammatory arthritis is also described in 114.00E.

Some of the features of connective tissue disorders in children may differ from the features in adults. When the clinical features are the same as that seen in adults, the principles and concepts in Part A, 14.00B apply.

The documentation needed to establish the existence of a connective tissue disorder is medical history, physical examination, selected laboratory studies, appropriate medically acceptable imaging, and, in some instances, tissue biopsy. Medically acceptable imaging includes, but is not limited to, x-ray imaging, computerized axial tomography (CAT scan) or magnetic resonance imaging (MRI), with or without contrast material, myelography, and radionuclear bone scans. “Appropriate” means that the technique used is the proper one to support the evaluation and diagnosis of the impairment. However, the Social Security Administration will not purchase diagnostic tests or procedures that may involve significant risk, such as biopsies or angiograms. Generally, the existing medical evidence will contain this information.

In addition to the limitations caused by the connective tissue disorder *per se,* the chronic adverse effects of treatment (e.g., corticosteroid-related ischemic necrosis of bone) may result in functional loss.

A longitudinal clinical record of at least 3 months demonstrating active disease despite prescribed treatment during this period with the expectation that the disease will remain active for 12 months is necessary for assessment of severity and duration of impairment.
In children the impairment may affect growth, development, attainment of age-appropriate skills, and performance of age-appropriate activities. The limitations may be the result of serious loss of function because of disease affecting a single organ or body system, or lesser degrees of functional loss because of disease affecting two or more organs/body systems associated with significant constitutional symptoms and signs of severe fatigue, fever, malaise, weight loss, and joint pain and stiffness. We use the term "severe" in these listings to describe medical severity; the term does not have the same meaning as it does when we use it in connection with a finding at the second step of the sequential evaluation processes in §§ 404.1520, 416.920, and 416.924.

C. Allergies, growth impairments and Kawasaki disease.

1. Allergic disorders (e.g., asthma or atopic dermatitis) are discussed and evaluated under the appropriate listing of the affected body system.

2. If growth is affected by the disorder or its treatment by immunosuppressive drugs, 100.00, Growth impairment, may apply. Children may have growth impairment as a result of the inflammatory arthritides because of the diseases' potential effects on the immature skeleton, open epiphyses, and young cartilage and bone. In such situations, the growth impairment should be evaluated under 100.00ff.

3. Kawasaki disease, also known as mucocutaneous lymph node syndrome, is characterized by multisystem manifestations, but significant functional impairment is usually due to disease of the coronary arteries, which should be evaluated under 104.00.

D. Human immunodeficiency virus (HIV) infection.

1. HIV infection is caused by a specific retrovirus and may be characterized by susceptibility to one or more opportunistic diseases, cancers, or other conditions, as described in 114.08. Any child with HIV infection, including, one with a diagnosis of acquired immunodeficiency syndrome (AIDS), may be found disabled under this listing if his or her impairment meets any of the criteria in 114.08 or is of equivalent severity to any impairment in 114.08.

2. Definitions. In 114.08, the terms "resistant to treatment," "recurrent," and "disseminated" have the same general meaning as used by the medical community. The precise meaning of any of these terms will depend upon the specific disease or condition in question, the body system affected, the usual course of the disorder and its treatment, and the other circumstances of the case.

"Resistant to treatment" means that a condition did not respond adequately to an appropriate course of treatment. Whether a response is adequate, or a course of treatment appropriate, will depend on the facts of the particular case.

"Recurrent" means that a condition that responded adequately to an appropriate course of treatment has returned after a period of remission or regression. The extent of response (or remission) and the time periods involved will depend on the facts of the particular case.

"Disseminated" means that a condition is spread widely over a considerable area or body system(s). The type and extent of the spread will depend on the specific disease.

3. Documentation of HIV infection in children. The medical evidence must include documentation of HIV infection. Documentation may be by laboratory evidence or by other generally acceptable methods consistent with the prevailing state of medical knowledge and clinical practice.

a. Documentation of HIV infection in children by definitive diagnosis. A definitive diagnosis of HIV infection is documented by one or more of the following laboratory tests:

i] For a child 24 months of age or older, a serum specimen that contains HIV antibodies. HIV antibodies are usually detected by a screening test. The most commonly used screening test is the ELISA. Although this test is highly sensitive, it may yield false positive results. Therefore, positive results from an ELISA must be confirmed by a more definitive test (e.g., Western Blot,

immunofluorescence assay). (See paragraph b, below, for information about HIV antibody testing in children younger than 24 months of age.)

ii] A specimen that contains HIV antigen (e.g., serum specimen, lymphocyte culture, or cerebrospinal fluid (CSF) specimen).

iii] An imunoglobulin A(IgA) serological assay specific for HIV.

iv] Other test(s) that are highly specific for detection of HIV in children (e.g., polymerase chain reaction (PCR)), or that are acceptable methods of detection consistent with the prevailing state of medical knowledge.

When laboratory testing for HIV infection has been performed, every reasonable effort must be made to obtain reports of the results of that testing.

b. Other acceptable documentation of HIV infection in children.

As noted in paragraph a, above, HIV infection is not documented in children under 24 months of age by a serum specimen containing HIV antibodies. This is because women with HIV infection often transfer HIV antibodies to their newborns. The mother's antibodies can persist in the infant for up to 24 months, even if the infant is not HIV-infected. Only 20 to 30 percent of such infants are actually infected. Therefore, the presence of serum HIV antibodies alone does not establish the presence of HIV infection in a child under 24 months of age. However, the presence of HIV antibodies accompanied by evidence of significantly depressed T-helper lymphocytes (CD4), an abnormal CD4/CD8 ratio, or abnormal immunoglobulin G (IgG) may be used to document HIV infection in a child under 24 months of age, even though such testing is not a basis for a definitive diagnosis.

For children from birth to the attainment of 24 months of age who have tested positive for HIV antibodies (see D3a above), HIV infection may be documented by one or more of the following:

i] For an infant 12 months of age or less, a CD4 (T4) count of 1500/mm^3 or less, or a CD4 count less than or equal to 20 percent of total lymphocytes.

ii] For an infant from 12 to 24 months of age, a CD4 (T4) count of 750/mm^3 or less, or a CD4 count less than or equal to 20 percent of total lymphocytes.

iii] An abnormal CD4/CD8 ratio.

iv] An IgG significantly greater than or less than the normal range for age.

HIV infection in children may also be documented without the definitive laboratory evidence described in paragraph a, or the other laboratory evidence discussed above, provided that such documentation is consistent with the prevailing state of medical knowledge and clinical practice and is consistent with the other evidence. If such laboratory evidence is not available, HIV infection may be documented by the medical history, clinical and laboratory findings, and diagnosis(es) indicated in the medical evidence, For example, a diagnosis of HIV infection in children will be accepted without definitive laboratory evidence if the child has an opportunistic disease (e.g., Pneumocystis carinii pneumonia (PCP)) predictive of a defect in cell-mediated immunity, and there is no other known cause of diminished resistance to that disease (e.g.,

long-term steroid treatment, lymphoma). In such cases, every reasonable effort must be made to obtain full details of the history, medical findings, and results of testing.

4. Documentation of the manifestations of HIV infection in children. The medical evidence must also include documentation of the manifestations of HIV infection in children. Documentation may be by laboratory evidence or by other generally acceptable methods consistent with the prevailing state of medical knowledge and clinical practice.

a. Documentation of the manifestations of HIV infection in children by definitive diagnosis.

The definitive method of diagnosing opportunistic diseases or conditions that are manifestations of HIV infection in children is by culture, serological test, or microscopic examination of biopsied tissue or other material (e.g., bronchial washings). Therefore, every reasonable effort must be made to obtain specific laboratory evidence of an opportunistic disease or other condition whenever this information is available. If a histological or other test has been performed, the evidence should include a copy of the appropriate report. If the report is not obtainable, the summary of hospitalization or a report from the treating source should include details of the findings and results of the diagnostic studies (including radiographic studies) or microscopic examination of the appropriate tissues or body fluids.

Although a reduced CD4 lymphocyte count in a child may show that there is an increased susceptibility to opportunistic infections and diseases, that alone does not establish the presence, severity, or functional effects of a manifestation of HIV infection in a child.

b. Other acceptable documentation of the manifestations of HIV infection in children.

Manifestations of HIV infection in children may also be documented without the definitive laboratory evidence described in paragraph a, provided that such documentation is consistent with the prevailing state of medical knowledge and clinical practice and is consistent with the other evidence. If no definitive laboratory evidence is available, manifestations of HIV infection may be documented by medical history, clinical and laboratory findings, and diagnosis(es) indicated in the medical evidence. In such cases, every reasonable effort must be made to obtain full details of the history, medical findings, and results of testing.

Documentation of cytomegalovirus (CMV) disease (114.08D) presents special problems because diagnosis requires identification of viral inclusion bodies or a positive culture from the affected organ, and the absence of any other infectious agent. A positive serology test identifies infection with the virus, but does not confirm a disease process. With the exception of chorioretinitis (which may be diagnosed by an ophthalmologist), documentation of CMV disease requires confirmation by biopsy or other generally acceptable methods consistent with the prevailing state of medical knowledge and clinical practice.

5. HIV infection in children. The clinical manifestation and course of disease in children who become infected with HIV perinatally or in the first 6 years of life may differ from that in older children and adults. In addition, survival times are shorter for children infected in the first year of life compared to those who become infected as older children or as adults.

Infants may present with failure to thrive or pneumocystis carinii pneumonia (PCP); young children may present with recurrent infections, neurological problems, or developmental abnormalities. Older children may also exhibit neurological abnormalities, such as HIV encephalopathy, or failure to thrive.

The methods of identifying and evaluating neurological abnormalities may vary depending on a child's age. For example, in an infant, impaired brain growth can be documented by a decrease in the growth rate of the head. In older children, impaired brain growth can be documented by brain atrophy on a CAT scan. Neurological abnormalities can also be observed in a younger child in the loss of previously acquired, or marked delays in achieving, developmental milestones. In an older child, this type of neurological abnormality would generally be demonstrated by the loss of previously acquired intellectual abilities. Although loss of previously acquired intellectual abilities can be documented by a decrease in intelligence quotient (IQ) scores or demonstrated if a child forgets information he or she previously learned, it can also be shown if the child is unable to learn new information. This could include the sudden acquisition of a new learning disability.

Children with HIV infection may contract any of a broad range of bacterial infections. Certain major infections caused by pyogenic bacteria, e.g., some pneumonias, can be severely limiting, especially in pre-adolescent children. These major bacterial infections should be evaluated under 114.08A5, which requires two or more such infections within a 2-year period. Although 114.08A5 applies only to children less than 13 ears of age, an older child may be found to have an impairment of equivalent severity if the circumstances of the case warrant (e.g., delayed puberty).

Otherwise, bacterial infections are evaluated under 114.08A6. The criteria of the listing are met if one or more bacterial infection(s) occurs and requires hospitalization or intravenous antibiotic treatment 3 or more times in 1 year. Pelvic inflammatory disease in older female children should be evaluated under multiple or recurrent bacterial infections (114.08A6).

6. Evaluation of HIV infection in children. The criteria in 114.08 do not describe the full spectrum of diseases or conditions manifested by children with HIV infection. As in any case, consideration must be given to whether a child's impairment(s) meets, medically equals, or functionally equals the severity of any other listing in appendix 1 of subpart P; e.g., a neoplastic disorder listed in 113.00ff. (See §§404.1526, 416.926, and 416.926a.) Although 114.08 includes cross-references to other listings for the more common manifestations of HIV infection, additional listings may also apply.

In addition, the impact of all impairments, whether or not related to the HIV infection, must be considered. Children with HIV infection may manifest signs and symptoms of a mental impairment (e.g., anxiety, depression), or of another physical impairment. Medical evidence should include documentation of all physical and mental impairments, and the impairment(s) should be evaluated not only under the relevant listing(s) in 114.08, but under any other appropriate listing(s).

It is also important to remember that children with HIV infection, like all others, are evaluated under the full sequential evaluation process described in Section 416.924. If a child with HIV infection is working and engaging in substantial gainful activity (SGA), or does not have a severe impairment, the case will be decided at the first or second step of the sequential evaluation process, and does not require evaluation under these listings. For a child with HIV infection who is not engaging in SGA and has a severe impairment, but whose impairment(s) does not meet the criteria of a listing, consideration will be given to whether the child's impairment or combination of impairments is either medically or functionally equivalent in severity to any listed impairment.

7. Effect of treatment. Medical treatment must be considered in terms of its effectiveness in ameliorating the signs, symptoms, and laboratory abnormalities of the specific disorder, or of the HIV infection itself (e.g., antiretroviral agents) and in terms of any side effects of treatment that may further impair the child.

Response to treatment and adverse or beneficial consequences of treatment may vary widely. For example, a child with HIV infection who develops otitis media may respond to the same antibiotic regimen used in treating children without HIV infection, but another child with HIV infection may not respond to the same regimen. Therefore, each case must be considered on an individual basis, along with the effects of treatment on the child's ability to function.

A specific description of the drugs or treatment given (including surgery), dosage, frequency of administration, and a description of the complications or response to treatment should be obtained. The effects of treatment may be temporary or long-term. As such, the decision regarding the impact of treatment should be based on a sufficient period of treatment to permit proper consideration.

8. Functional criteria. Paragraph O of 114.08 establishes standards for evaluating manifestations of HIV infection that do not meet the requirements listed in 114.08A-N. Paragraph O is applicable for manifestations that are not listed in 114.08A-N, as well as those listed in 114.08A-N that do not meet the criteria of any of the rules in 114.08A-N.
For children with HIV infection evaluated under 114.08O, listing-level severity will be assessed in terms of the functional limitations imposed by the impairment. The full impact of signs, symptoms, and laboratory findings on the child's ability to function must be considered. Important factors to be considered in evaluating the functioning of children with HIV infection include but are not limited to: symptoms, such as fatigue and pain, characteristics of the illness, such as the frequency and duration of manifestations or periods of exacerbation and remission in the disease course; and the functional impact of treatment for the disease, including the side effects of medication.

To meet the criteria in 114.08O, a child with HIV infection must demonstrate a level of restriction in either one or two (depending on the child's age) of the general areas of functioning applicable to the child's age group. (See 112.00C for additional discussion of these areas of functioning).

E. Inflammatory arthritis (114.09) includes a vast array of disorders that differ in cause, course, and outcome. For example, in children inflammatory spondyloarthropathies include juvenile ankylosing spondylitis, reactive arthropathies, psoriatic arthropathy, and Behçet's disease, as well as undifferentiated spondylitis. Inflammatory arthritis of peripheral joints likewise comprises many disorders, including juvenile rheumatoid arthritis, Sjögren's syndrome, psoriatic arthritis, crystal deposition disorders, and Lyme disease. Clinically, inflammation of major joints may be the dominant problem causing difficulties with ambulation or fine and gross movements, or the arthritis may involve other joints or cause less restriction of age-appropriate ambulation or other movements but be complicated by extra-articular features that cumulatively result in serious functional deficit. When persistent deformity without ongoing inflammation is the dominant feature of the impairment, it should be evaluated under 101.02, or, if there has been surgical reconstruction, 101.03.

1. Because the features of inflammatory connective tissue diseases in children are modified by such factors as the child's limited antigenic exposure and immune reactivity, the acute inflammatory connective tissue diseases must be differentiated from each other in order to

evaluate duration factors and responses to specific treatments. Chronic conditions must be differentiated from short-term reversible disorders, and also from other connective tissue diseases.

2. In 114.09A, the term major joints refers to the major peripheral joints, which are the hip, knee, shoulder, elbow, wrist-hand, and ankle-foot, as opposed to other peripheral joints (e.g., the joints of the hand or forefoot) or axial joints (i.e., the joints of the spine.) The wrist and hand are considered together as one major joint, as are the ankle and foot. Since only the ankle joint, which consists of the juncture of the bones of the lower leg (tibia and fibula) with the hindfoot (tarsal bones), but not the forefoot, is crucial to weight bearing, the ankle and foot are considered separately in evaluating weight bearing.

3. The terms inability to ambulate effectively and inability to perform fine and gross movements effectively in 114.09A have the same meaning as in 101.00B2b and 101.00B2c and must have lasted, or be expected to last, for at least 12 months.

4. Inability to ambulate effectively is implicit in 114.09B. Even though children who demonstrate the findings of 114.09B will not ordinarily require bilateral upper limb assistance, the required ankylosis of the cervical or dorsolumbar spine will result in an extreme loss of the ability to see ahead, above, and to the side.

5. As in 114.02 through 114.06, extra-articular features of an inflammatory arthritis may satisfy the criteria for a listing in an involved extra-articular body system. Such impairments may be found to meet a criterion of 114.09C. Extra-articular impairments of lesser severity should be evaluated under 114.09D and 114.09E. Commonly occurring extra-articular impairments include keratoconjunctivitis sicca, uveitis, iridocyclitis, pleuritis, pulmonary fibrosis or nodules, restrictive lung disease, pericarditis, myocarditis, cardiac arrhythmias, aortic valve insufficiency, coronary arteritis, Raynaud's phenomena, systemic vasculitis, amyloidosis of the kidney, chronic anemia, thrombocytopenia, hypersplenism with compromised immune competence (Felty's syndrome), peripheral neuropathy, radiculopathy, spinal cord or cauda equina compression with sensory and motor loss, and heel enthesopathy with functionally limiting pain.

6. The fact that a child is dependent on steroids, or any other drug, for the control of inflammatory arthritis is, in and of itself, insufficient to find disability. Advances in the treatment of inflammatory connective tissue disease and in the administration of steroids for its treatment have corrected some of the previously disabling consequences of continuous steroid use. Therefore, each case must be evaluated on its own merits, taking into consideration the severity of the underlying impairment and any adverse effects of treatment.

114.01 Category of Impairments, Immune System

114.02 ***Systemic lupus erythematosus***. Documented as described in 14.00B1 and 114.00B, with:

A. One of the following:
1. Growth impairment, as described under the criteria in 100.00ff; or

2. Musculoskeletal involvement, as described under the criteria in 101.00ff; or

3. Muscle involvement, as described under the criteria in 14.05; or

4. Ocular involvement, as described under the criteria in 102.00ff; or

5. Respiratory involvement, as described under the criteria in 103.00ff, or

6. Cardiovascular involvement, as described under the criteria in 104.00ff or 14.04D; or

7. Digestive involvement, as described under the criteria in 105.00ff; or

8. Renal involvement, as described under the criteria in 106.00ff; or

9. Hematologic involvement, as described under the criteria in 107.00ff; or

10. Skin involvement, as described under the criteria in 8.00ff, or

11. Endocrine involvement, as described under the criteria in 109.00ff; or

12. Neurological involvement as described under the criteria in 111.00ff; or

13. Mental involvement, as described under the criteria in 112.00ff.

or

B. Lesser involvement of two or more organs/body systems listed in paragraph A, with significant, documented, constitutional symptoms and signs of severe fatigue, fever, malaise, and weight loss. At least one of the organs/body systems must be involved to at least a moderate level of severity.

114.03 ***Systemic vasculitis****.* As described in 14.03 or, if growth impairment, as described under the criteria in 100.00ff.

114.04 **Systemic *sclerosis and scleroderma****.* Documented as described in 14.00B3 and 114.00B, and:

A. As described under the criteria in 14.04 or, if growth impairment, as described under the criteria in 100.00ff.
or

B. Linear scleroderma, with one of the following:

1. Fixed valgus or varus deformities of both hands or both feet; or

2. Marked destruction or marked atrophy of an extremity; or

3. Facial disfigurement from hypoplasia of the mandible, maxilla, or zygoma resulting in an impairment as described under the criteria in 112.00ff; or

4. Seizure disorder, as described under the criteria in 111.00ff.

114.05 ***Polymyositis or dermatomyositis****.* Documented as described in 14.00B4 and 114.00B, and:

A. As described under the criteria in 14.05.

or

B. With one of the following:

1. Multiple joint contractures; or

2. Diffuse cutaneous calcification with formation of an exoskeleton; or

3. Systemic vasculitis as described under the criteria in 14.03.

114.06 ***Undifferentiated connective tissue disorder****.* As described under the criteria in 114.02 or 114.04.

114.07 ***Congenital immune deficiency disease****.*

A. Hypogammaglobulinemia or dysgammaglobulinemia, with:

1. Documented, recurrent severe infections occurring 3 or more times within a 5-month period;

or

2. An associated disorder such as growth retardation, chronic lung disease, collagen disorder or tumor. Evaluate according to the appropriate body system listing.

or

B. Thymic dysplastic syndromes (such as Swiss, diGeorge).

114.08 ***Human immunodeficiency virus (HIV) infection****.* With documentation as described in 114.00D3 and one of the following:

A. Bacterial infections:
1. Mycobacterial infection (e.g., caused by M. avium-intracellulare, M. kansasii, or M. tuberculosis) at site other than the lungs, skin, or cervical or hilar lymph nodes; or pulmonary tuberculosis resistant to treatment; or

2. Nocardiosis; or

3. Salmonella bacteremia, recurrent non-typhoid; or

4. Syphilis or neurosyphilis - evaluate sequelae under the criteria for the affected body system (e.g., 102.00 Special Senses and Speech, 104.00 Cardiovascular System, 111.00 Neurological); or

5. In a child less than 13 years of age, multiple or recurrent pyogenic bacterial infection(s) of the following types: sepsis, pneumonia, meningitis, bone or joint infection, or abscess of an internal organ or body cavity (excluding otitis media or superficial skin or mucosal abscesses) occurring 2 or more times in 2 years; or

6. Other multiple or recurrent bacterial infection(s), including pelvic inflammatory disease, requiring hospitalization or intravenous antibiotic treatment 3 or more times in 1 year.

or

B. Fungal infections:

1. Aspergillosis; or

2. Candidiasis, at a site other than the skin, urinary tract, intestinal tract, or oral or vulvovaginal mucous membranes; or candidiasis involving the esophagus, trachea, bronchi, or lungs; or

3. Coccidioidomycosis, at a site other than the lungs or lymph nodes; or

4. Cryptococcosis, at a site other than the lungs (e.g., cryptococcal meningitis); or

5. Histoplasmosis, at a site other than the lungs or lymph nodes; or

6. Mucormycosis.

or

C. Protozoan or helminthic infections:

1. Cryptosporidiosis, isosporiasis, or microsporidiosis, with diarrhea lasting for 1 month or longer; or

2. Pneumocystis carinii pneumonia or extrapulmonary pneumocystis carinii infection; or

3. Strongyloidiasis, extra-intestinal; or

4. Toxoplasmosis of an organ other then the liver, spleen, or lymph nodes.

or

D. Viral infections:

1. Cytomegalovirus disease (documented as described in 114.00D4b) at a site other than the liver, spleen, or lymph nodes; or

2. Herpes simplex virus causing:

a. Mucocutaneous infection (e.g., oral, genital, perianal) lasting for 1 month or longer; or

b. Infection at a site other than the skin or mucous membranes (e.g., bronchitis, pneumonitis, esophagitis, or encephalitis); or

c. Disseminated infection; or

3. Herpes zoster, either disseminated or with multidermatomal eruptions that are resistant to treatment; or

4. Progressive multifocal leukoencephalopathy; or

5. Hepatitis, as described under the criteria in 105.05.

or

E. Malignant neoplasms:

1. Carcinoma of the cervix, invasive, FIGO stage II and beyond; or

2. Kaposi's sarcoma with:

a. Extensive oral lesions; or

b. Involvement of the gastrointestinal tract, lungs, or other visceral organs;
or

c. Involvement of the skin or mucous membranes, as described under the criteria in 114.08F; or

3. Lymphoma (e.g., primary lymphoma of the brain, Burkitt's lymphoma, immunoblastic sarcoma, other Non-Hodgkins lymphoma, Hodgkins disease); or

4. Squamous cell carcinoma of the anus.

or

F. Conditions of the skin or mucous membranes other than described in B2, D2, or D3, above), with extensive fungating or ulcerating lesions not responding to treatment (e.g., dermatological conditions such as eczema or psoriasis, vulvovaginal or other mucosal candida, condyloma caused by human papillornavirus, genital ulcerative disease), or evaluate under the criteria in 8.00ff.

or

G. Hematologic abnormalities:

1. Anemia, as described under the criteria in 7.02; or

2. Granulocytopenia, as described under the criteria in 7.15; or

3. Thrombocytopenia., as described under the criteria in 107.06 or 7.06.

or

H. Neurological manifestations of HIV infection (e.g., HIV encephalopathy, peripheral neuropathy), as described under the criteria in 111.00ff, or resulting in one or more of the following:

1. Loss of previously acquired, or marked delay in achieving developmental milestones or intellectual ability (including the sudden acquisition of a new learning disability); or

2. Impaired brain growth (acquired microcephaly or brain atrophy – see 114.00D5); or

3. Progressive motor dysfunction affecting gait and station or fine and gross motor skills.

or

I. Growth disturbance, with:

1. An involuntary weight loss (or failure to gain weight at an appropriate rate for age) resulting in a fall of 15 percentiles from established growth curve (on standard growth charts) that persists for 2 months or longer, or

2. An involuntary weight loss (or failure to gain weight at an appropriate rate for age) resulting in a fall to below the third percentile from established growth curve (on standard growth charts) that persists for 2 months or longer; or

3. Involuntary weight loss greater than 10 percent of baseline that persists for 2 months or longer; or

4. Growth impairment as described under the criteria in 100.00ff.

or

J. Diarrhea, lasting for 1 month or longer, resistant to treatment, and requiring intravenous hydration, intravenous alimentation, or tube feeding.

or

K. Cardiomyopathy, as described under the criteria in 104.00ff or 11.04.

or

L. Lymphoid interstitial pneumonia/pulmonary lymphoid hyperplasia (LIP/PLH complex), with respiratory symptoms that significantly interfere with age-appropriate activities, and that cannot be controlled by prescribed treatment.

or

M. Nephropathy, as described under the criteria in 106.00.

or

N. One or more of the following infections (other than described in A-M, above), resistant to treatment or requiring hospitalization or intravenous treatment 3 or more times in 1 year (or evaluate sequelae under the criteria for the affected body system).

1. Sepsis; or

2. Meningitis; or

3. Pneumonia; or

4. Septic arthritis; or

5. Endocarditis; or

6. Sinusitis documented by appropriate medically acceptable imaging.

or

O. Any other manifestation(s) of HIV infection (including any listed in 114.08A-N, but without the requisite findings; e.g., oral candidiasis not meeting the criteria in 114.08F, diarrhea not meeting the criteria in 114.08J, or any other manifestation(s); e.g., oral hairy leukoplakia, hepatomegaly), resulting in one of the following:

1. For children from birth to attainment of age 1, at least one of the criteria in paragraphs A-E of 112.12; or

2. For children age 1 to attainment of age 3, at least one of the appropriate age-group criteria in paragraph B1 of 112.02; or

3. For children age 3 to attainment of age 18, at least two of the appropriate age-group criteria in paragraph B2 of 112.02.

114.09 ***Inflammatory arthritis.*** Documented as described in 114.00E, with one of the following:

A. History of joint pain, swelling, and tenderness, and signs on current physical examination of joint inflammation or deformity in two or more major joints resulting in inability to ambulate effectively or inability to perform fine and gross movements effectively, as defined in 114.00E3 and 101.00B2b and B2c;

or

B. Ankylosing spondylitis or other spondyloarthropathy, with diagnosis established by findings of unilateral or bilateral sacroiliitis (e.g., erosions or fusions), shown by appropriate medically acceptable imaging, with both:

1. History of back pain, tenderness, and stiffness, and

2. Findings on physical examination of ankylosis (fixation) of the dorsolumbar or cervical spine at 45^{o} or more of flexion measured from the vertical position (zero degrees);

or

C. An impairment as described under the criteria in 114.02A.

or

D. Inflammatory arthritis, with signs of peripheral joint inflammation on current examination, but with lesser joint involvement than in A and lesser extra-articular features than in C, and:

1. Significant, documented constitutional symptoms and signs (e.g., fatigue, fever, malaise, weight loss), and

2. Involvement of two or more organs/body systems (see 114.00E5). At least one of the organs/body systems must be involved to at least a moderate level of severity.

or

E. Inflammatory spondylitis or other inflammatory spondyloarthropathies, with lesser deformity than in B and lesser extra-articular features than in C, with signs of unilateral or bilateral sacroiliitis on appropriate medically acceptable imaging; and with the extra-articular features described in 114.09D.