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Features of the *BRIGANCE*[®] Infant & Toddler Screen

- 1. Screening Can Be Accomplished Quickly:** The essence of screening is its brevity. The basic screening of most children can be completed within ten to twelve minutes. Screening a child who responds slowly rarely takes more than twenty minutes.
 - 2. Screening Can Be Accomplished Flexibly:** The *Screen* can be administered either by directly eliciting skills from children or by parent report. A combination of both methods can also be used if children do not cooperate with all items.
 - 3. Screening Provides a Sampling of Skills for Key Areas:** The basic assessments provide a sampling of each child's development and skills in key areas including fine motor, gross motor, expressive language, receptive language, self-help, and social-emotional skills. An indicator of cognitive skills is also provided by viewing the combined score on specific items within assessments. A discussion and demonstration of the domains and factors into which these skills are categorized can be found in the *Technical Report for the BRIGANCE*[®] *Screens*.
 - 4. Screening Produces a Wide Range of Scores:** Because the *Screen* is used for a variety of purposes, a range of scores is needed (e.g., for program planning, for determining eligibility for programs, for research studies, etc.). Raw scores, age-equivalents, percentiles, and quotients for each developmental domain are produced.
 - 5. The Data Sheet Provides a Quick Review:** The *Data Sheets*, one for infants (birth–11 months) and one for toddlers (12–23 months), allow data to be recorded on one page in a triplicate copy. Thus, a glance across the *Data Sheet* provides a quick review, and copies of the data can be shared with others and filed as needed.
 - 6. Screening Will Be a Successful Experience for Most Children:** Each screening assessment is at a skill level that will allow a high degree of success for most children. Thus, most children and parents will feel positive about the screening.
 - 7. Related Forms for Optional Use Are Included:** A related screening information form for examiner's and teacher's observations and a parent-child interactions rating form for examiners are included as items for optional use. (See pages 44–46.)
 - 8. A Score Can Be Calculated for Ranking and Grouping Purposes:** A point value is assigned to each skill within each basic screening assessment to provide a means of calculating a score for each child.
 - 9. Assessments Are Criterion-Referenced, Curriculum-Referenced, and Norm-Referenced:** The criterion-referencing and curriculum-referencing of the assessments provide data that can be translated into instructional objectives. The results of the standardization and validation study allow norm-referenced interpretation.
 - 10. Necessary Materials Are included in the Box of Materials:** A box of materials available for purchase from the publisher contains a cup, a squeaking toy, blocks, crayons, a spoon, and tissues. Blank paper and crackers will also be needed.
 - 11. Duplication of Assessments Can Be Avoided:** The skills included are generally the same as those included in the *BRIGANCE Diagnostic Inventory of Early Development—Revised* (Birth–7 years). Program personnel using the *Inventory* with its accompanying individual *Developmental Record Book* for the purposes of assessing, record keeping, tracking, and instructional planning can frequently avoid duplication of assessment. Much of the data needed for screening can be taken from the individual *Developmental Record Book* if it is current and valid. Likewise, screening data can be recorded in the *Developmental Record Book*. (See pages 51–61 for coordination of the assessments in this *Screen* with the *Inventory of Early Development—Revised*.)
 - 12. Screening Can Be Accomplished Reliably, Validly, and Accurately:** The *BRIGANCE Screens* were initially standardized on 1,564 children around the country. Additional standardization was conducted between 1999 and 2000 and involved administering the *Infant & Toddler Screen* to 408 infants and toddlers in 21 states to produce normative information on children's performance across the birth–23 month range. This is critical because most infants now sleep in their backs as recommended by the American Academy of Pediatrics and this has produced changes in motor development in the first year of life. Similarly recent research on social development and psychosocial risk enabled the *Screen*, by virtue of its recent standardization, to include important skills and to assess the impact of risk on children's development. Highlights from the study include:
 - Validated on 408 children of whom 71 were given a range of other measures (e.g., *Bayley Scales of Infant Development*, *Infant Behavior Record*, *Vineland Adaptive Behavior Scale*, *Receptive-Expressive Emergent Language Test—Second Edition (Reel-2)*, *Alberta Infant Motor Scale*, etc.) for comparison and found to correlate highly (.74–.91) with, subtests and measures of similar content.
 - Shown to be highly reliable both in terms of internal consistency (.94–.97), test-retest (.98–.99), and inter-examiner reliability (.98–.99)
 - Highly accurate. The *Screen* will identify 76% to 77% of children with disabilities, and 85% to 86% of children with normal development. It will also identify children performing in the top 20% for their age as an indicator of advanced development.
- Extensive information about the *Infant & Toddler Screen* standardization is found in the *Technical Report for the BRIGANCE Screens*.

Rationale and History

Rationale for Development: *The BRIGANCE® Infant & Toddler Screen* is part of the *BRIGANCE Screens System* and is designed for children birth–23 months old. The rationale for creating the *Screen* was to enable a careful view of children’s growth and learning. The *Screen* includes the recognition that development is a continuous, ever-evolving process resulting from the child’s skills and temperament, caretakers’ involvement and interactions, and the transactions between the two. By measuring this process, the *Screen* enables professionals to monitor children’s progress, advise parents on how to promote development, and to initiate individualized instruction and any special services needed to facilitate children’s learning and family adjustment.

The *Infant & Toddler Screen*, like all of the *BRIGANCE Screens*, is criterion-referenced but has also been standardized and validated via extensive normative research. This research shows that when the assessments are administered and scored *in strict accordance with the directions accompanying each basic assessment*, valid norms will result. Children with difficulties as well as those whose scores suggest advanced development can, in combination with teacher/examiner ratings, be identified using the cutoff scores determined by the study. (See pages xviii and xix and the *Technical Report for the BRIGANCE Screens*, chapter 3. Thus the same basic assessments are both criterion-referenced and norm-referenced and should meet the needs of most early intervention, day care, health care, and school programs.

History: The *Infant & Toddler Screen* was first published in 2002 in response to many requests received from professionals using other *BRIGANCE Screens* and assessment instruments. The *Screen* is the downward extension of the *BRIGANCE Screens System* which includes the *BRIGANCE K & 1 Screen* (1982, 1987, 1992, 1997) the *BRIGANCE Preschool Screen* (1985, 1998) and the *BRIGANCE Early Preschool Screen* (1990, 1998). (See page 49 for additional history and acknowledgments.)

Criteria for Selection of Screening Assessments Included in the *Infant & Toddler Screen*: The skills included in the *Screen* were selected using the following criteria:

1. What skills are of a developmental or difficulty level that will identify children who may not be successful and yet will allow most to have a high degree of success in order to help parents and children feel positive about the screening experience?
2. What skills can be assessed expediently with a high degree of validity and objectivity?
3. What skills in the *BRIGANCE Diagnostic Inventory of Early Development* were found to be the most appropriate for screening purposes?
4. What skills can be assessed
 - a. by the use of materials that are usually readily available and inexpensive?
 - b. in facilities or settings in which space may be limited?
 - c. without having the teacher/examiner involved in time-consuming and complicated procedures or in manipulating assessment materials?
5. Which of the skills meeting the above criteria can be validated by
 - a. a review of the literature as having the greatest value in predicting future school success?
 - b. critiquing and field-testing as being appropriate to use for screening purposes?

Screening Procedures

Purpose of Screening: The primary purpose of screening is to obtain a broad sampling of a child's skills and behaviors for one or more of the following reasons:

1. To identify any child who should be referred for a more comprehensive evaluation to determine the existence of a disability or the need for special placement.
2. To help determine the most appropriate initial placement or grouping of children.
3. To assist the teacher in planning a more appropriate program for each child.
4. To provide a brief method for evaluating program effectiveness.
5. To comply with mandated screening requirements.

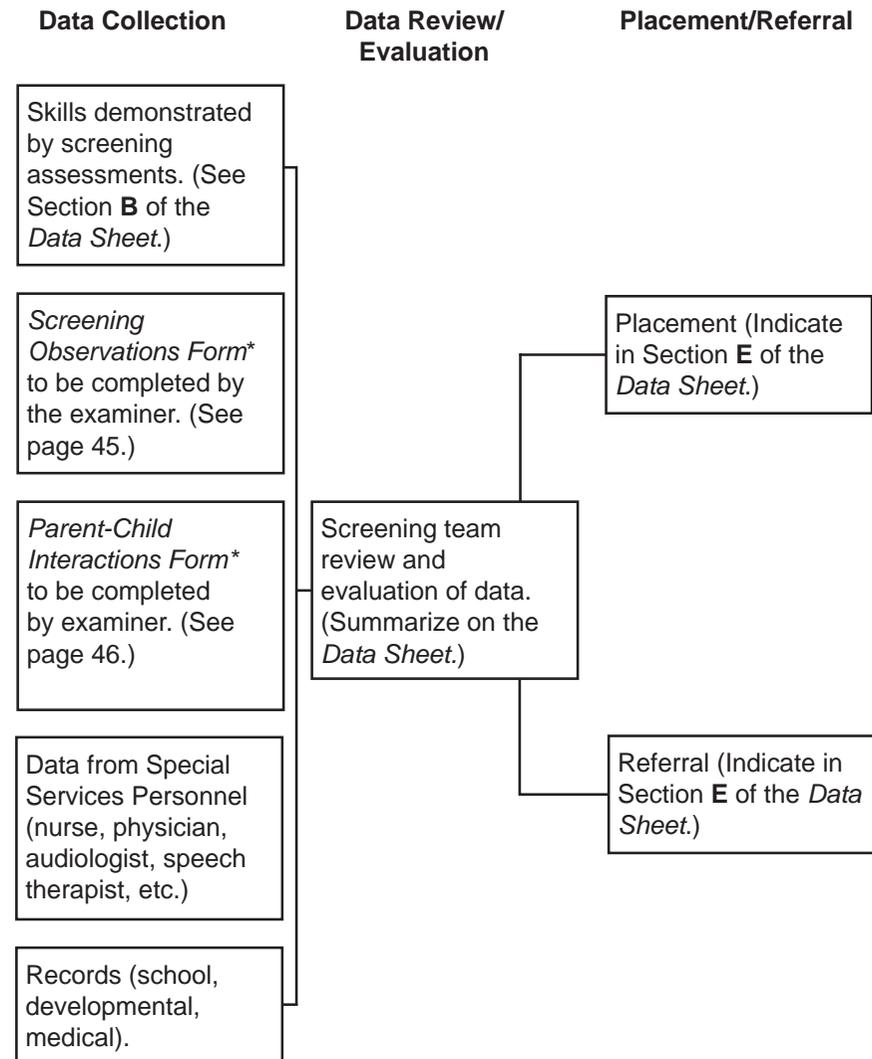
Most school systems are required to conduct child find in order to comply with state mandates and other mandates such as the Individuals with Disabilities Education Act (IDEA).

General Screening Procedures: In most cases, screening involves one or more professionals working with a child and his or her parent(s) to obtain the most valid sampling of the child's skills and behavior. The screening procedures and materials in this instrument are designed specifically to assist professionals in the acquisition and evaluation of the data necessary for determining if a child probably has delays and whether he or she should be referred for a more comprehensive evaluation or enrolled in early stimulation programs.

The diagram on the right illustrates a model of the screening program in which the screening procedures can be used. The materials and personnel for each assessment are indicated. Some materials are optional.

It is not within the scope of this publication to include procedures for evaluating the child's physiological development. Physical examinations and screening for vision, hearing, or oral-motor problems should be performed by appropriately trained personnel. However, the professional using the *Screen* is encouraged to observe for indications of such problems and to report the observations to the appropriate member of the screening team or to make the appropriate referral.

Diagram of Screening Procedures and Materials



* Optional

General Screening Directions

When to Schedule the Screening: Screening should be scheduled for times that best serve the needs and purposes of the service, program, or child and family. Professionals in school-based programs may prefer to schedule screening in the spring or fall, as either a pretest or post test, or as an initial method for deciding upon the types and general content of needed interventions, as well as for ensuring the availability of needed personnel.

In other settings, such as child-find programs, screening should be offered on an as-needed basis. In health care settings, screening should be routine and provided at every well-child visit.

For children newly enrolled in early stimulation, day care, or preschool programs, screening can serve as a baseline indicator of performance. Follow-up screening is recommended for children who scored low in the first screening. The second screening can be conducted after a period of six weeks or after remedial activities have been implemented. Also, children who score significantly lower than expected, possibly due to factors such as a “bad day” or illness, can be rescreened at a more appropriate time.

Semiannual screening (e.g., in the fall and spring) can help identify children who do not make adequate progress during the school year. Additionally, a growth indicator table with directions for its use has been included in this *Screen* in Appendix C, on pages 62–64, to enable teachers to document learning when the next higher level of the *BRIGANCE® Screen* is administered at the end of a school year or a full year later. (See the *Technical Report for the BRIGANCE Screens*, chapter 6, for additional information on the use of growth indicators.)

Who Can Conduct the Screening: Screening can be conducted by a teacher, a paraprofessional or other professional such as an occupational or physical therapist, a nurse, or a physician. Specialized training in test administration can be an asset, but it is not considered a prerequisite. However, carefully reading the directions and other information about administering *BRIGANCE Screens* is critical to correct administering of the *Infant & Toddler Screen*.

The documentation for the other *BRIGANCE Screens* suggests that a combination of professional examiners and paraprofessionals can administer the measures to any one child. This is not encouraged with the *Infant & Toddler Screen* because of the challenges of developing rapport and overcoming the stranger anxiety that is often present with young children. Thus it is recommended that a single examiner complete all assessments with each child.

Examiners must become familiar with the directions and procedures for scoring and must administer each test *strictly in accordance with the directions* if they intend to use the norms to determine the presence of significant strengths and weaknesses. (See the *Technical Report for the BRIGANCE Screens*, chapter 1, for additional information.)

Appropriate Age Ranges When Using the *Infant & Toddler Screen* as a Norm-Referenced Instrument: The *Screen* includes two separate measures, Infant and Toddler. They include assessments for the following age ranges:

1. **Infant:** The skills included range from the birth level to early toddlerhood. Because development is exceedingly rapid during the first year of life, performance will vary widely on the basis of age alone. For this reason, there are cutoffs for each month of age for children in the age range of the Infant assessments (birth–11 months). The cutoffs enable a child to be compared to others of the same age and thus offer evidence of delayed or advanced development. If the goal of assessment is to provide such information, the Infant assessments should be administered only to children in the birth-to-11-month age range.
2. **Toddler:** The skills included are at a skill level that a review of normative data indicates most children develop or master in the second year of life. Because development is rapid during the second year of life, performance will vary widely on the basis of age alone. For this reason, there are cutoffs for each two-month interval for children in the age range of the Toddler assessments (12–23 months). The cutoffs enable a child to be compared to others of the same age and thus offer evidence of delayed or advanced development. If the goal of assessment is to provide such information, the Toddler assessments should be administered only to children in the 12-to-23-month age range.

(continued from page vi)

The one exception occurs when working with observably delayed children who are older than 11 months of age. In these cases, the *Infant Data Sheet* may be used. Examiners will still need to give credit on the *Toddler Data Sheet* for successful completion of skills that are listed on both the *Infant* and *Toddler Data Sheets*. Once this occurs, the Toddler cutoffs can and must be used. The following table shows the overlapping skills:

Assessment	Infant	Toddler
	If successful on the following Infant Skills.....Give credit for the following Toddler Skills	
Fine-Motor Skills 1A and 1B	Skill 9 Skill 10 Skill 11 Skill 12 Skill 13 Skill 14	Skill 1 Skill 2 Skill 3 Skill 4 Skill 5 Skill 6
General Receptive Language Skills 2A and 2B	Skill 8 Skill 9 Skill 10 Skill 11 Skill 12 Skill 13 Skill 14 Skill 15	Skill 1 Skill 2 Skill 3 Skill 4 Skill 5 Skill 6 Skill 7 Skill 8
General Expressive Language Skills 3A and 6B	Skill 7 Skill 8 Skill 9 Skill 10 Skill 11 Skill 12 Skill 13 Skill 14	Skill 1 Skill 2 Skill 3 Skill 4 Skill 5 Skill 6 Skill 7 Skill 8

Assessment	Infant	Toddler
Gross-Motor Skills 4A and 9B	Skill 7 Skill 8 Skill 9 Skill 10 Skill 11 Skill 12 Skill 13	Skill 1 Skill 2 Skill 3 Skill 4 Skill 5 Skill 6 Skill 7
Self-help Skills 5A and 10B	Skill 8 Skill 9 Skill 10 Skill 11 Skill 12 Skill 13 Skill 14	Skill 1 Skill 2 Skill 3 Skill 4 Skill 5 Skill 6 Skill 7
Social-Emotional Skills 6A and 11B	Skill 10 Skill 11 Skill 12 Skill 13 Skill 14 Skill 15	Skill 1 Skill 2 Skill 3 Skill 4 Skill 5 Skill 6

Note 1: If a 12-to-23-month-old is not successful on any of the above listed Infant skills in an assessment, a value of 0 is entered on the *Toddler Data Sheet* for that assessment.

Note 2: If a 12-to-23-month-old is administered the Infant assessments and is successful with one or more of the highest three, non-overlapping skills from the Toddler assessments will need to be administered before using the Toddler cutoffs.

Appropriate Age Ranges When Using the *Infant & Toddler Screen* as a Criterion-Referenced Instrument: There are no age-range restrictions when using the *Screen* for obtaining information on which skills a child has or has not mastered or for instructional planning.

Functional Hearing and Vision

Problems associated with vision and hearing can significantly affect and invalidate the results of the screening assessment. Thus, prior to considering any screening assessment results that suggest a problem and disability as valid, the examiner should confirm that vision and hearing problems do not exist. Ideally, vision and hearing screening such as that provided by most public health departments is included as part of the screening process. However, the results of such vision and hearing screening are not always available to the examiner at the time the screening assessment is conducted. Symptoms of hearing and vision difficulties are listed below. Although these are helpful, they are not a substitute for screening offered by a health care professional. All children should be screened and rescreened repeatedly by their primary care provider for vision and hearing difficulties.

Note: A temporary hearing loss due to fluid in the middle ear is frequently brought about by the common cold or allergies. A child who recently passed hearing screening may not be hearing well due to a cold or allergies on the day of the screening assessment.

Observing for Possible Hearing Problems and Checking Functional Hearing: Observations that suggest a hearing problem and may warrant a referral include the following:

- failure to pass Skills 1 or 4 of assessment 2A Receptive Language Skills
- a tendency to watch the speaker's face in order to understand better
- difficulty hearing over background noise
- turning the head to one side in order to favor one ear
- frequently misunderstanding directions and asking that they be repeated
- rubbing or touching the ears
- signs of fluid draining from the ear
- failing to respond to sounds, voices, name, etc.
- below average performance on the Receptive or Expressive Language Skills in either the Infant or Toddler assessments

A functional hearing check may be made by using one or more of the following methods:

- Administering Skills 1 or 4 of assessment 2A Receptive Language Skills.
- Standing behind the child and making a sound that is likely to cause the child to respond. Extreme caution should be used because any puff of air or movement within the child's peripheral vision may cause a response that can be falsely construed as evidence of hearing. Also, such informal approaches are not calibrated for decibel level or frequency and children can sometimes hear well at some frequencies but not others.

If attempted, sounds may consist of

- a. whispering the child's name.
 - b. snapping your fingers.
 - c. squeaking a toy.
 - d. gently ringing a bell.
- Asking the parent(s) whether they have concerns about the child's hearing.
 - Observing to see if the child responds appropriately to environmental sounds not in his or her field of vision, such as the sound of a door's opening, a dog's bark, a car's horn, or a friend's call.

After observing for indications of functional hearing and possible problems, check the appropriate blank for the first item in section **D** of the child's *Data Sheet* and record appropriate notes.

Observing for Possible Vision Problems and Checking Functional Vision:

Observations that suggest a vision problem and may warrant a referral include the following:

- symptoms of
 - a. amblyopia (reduced vision in one eye due to lack of use)
 - b. refractive errors (diminished acuity)
 - c. strabismus (crossed eyes or wandering)
- symptoms of eye fatigue or stress, such as blinking, squinting, itching, or tearing
- redness or eye discharge indicating an eye infection
- a tendency to squint or close one eye in order to see better
- parental concern about vision
- difficulty noticing small objects (e.g., cracker bits) against a background of a similar color
- holding head close to page on *Screen* skills requiring picture recognition

A functional vision check may be made by using one or more of the following methods:

- Asking the child to track visually (watch) a small toy car as it is gently rolled across the table.
- Asking the child to watch a beam of light as it is moved slowly on the wall.
- Asking the child to focus on an object, such as the eraser of a pencil, as it is held in different positions.
- Asking the child to locate small objects against a similar colored background (e.g., observe the child's behavior during items in which small bits of cracker are used, changing the background color if necessary).

After observing for indications of functional vision and possible problems, check the appropriate blank for the second item in section **D** of the child's *Data Sheet* and record appropriate notes.