

## Telepractice and the BOT-3

The telepractice information in this document is intended to support professionals in making informed, well-reasoned decisions around remote assessment. This information is not intended to be comprehensive regarding all considerations for assessment via telepractice. It should not be interpreted as a requirement or recommendation to conduct assessment via telepractice.

Professionals should remain mindful to:

- Follow professional best practice recommendations and respective ethical codes
- Follow telepractice regulations and legal requirements from federal, state, and local authorities, licensing boards, professional liability insurance providers, and payors
- Develop competence with assessment via telepractice through activities such as practicing, studying, consulting with other professionals, and engaging in professional development

Professionals should use their clinical judgment to determine if assessment via telepractice is appropriate for a particular examinee, referral question, and situation. There are circumstances where assessment via telepractice is not feasible and/or is contraindicated. Documentation of all considerations, procedures, and conclusions remains a professional responsibility.

Several professional organizations and experts have provided guidance on telepractice assessment (American Occupational Therapy Association [AOTA], 2020; American Psychological Association Services [APA Services], 2020; Association of State and Provincial Psychology Boards [ASPPB], 2013; Cason et al., 2018; Grosch et al., 2011; Inter Organizational Practice Committee [IOPC], 2020; Stolwyk et al., 2020) to assist professionals in decision making and ethical and legal practice issues.

There are several options for administering the Bruininks-Oseretsky Test of Motor Proficiency (3rd ed.; BOT-3; Bruininks & Bruininks, 2024) via telepractice; however, the normative data were collected via an in-person assessment. Therefore, the BOT-3 must be administered by a qualified professional examiner through observation and direct interaction with the examinee to fully adhere to standardized procedures. Telepractice is a deviation from the standardized administration, and the methods and approaches to administering the BOT-3 via telepractice should be supported by research and practice guidelines when appropriate.

A facilitator must be available at the location of the examinee for the BOT-3 to be administered via telepractice. An initial virtual meeting with the designated on-site facilitator should occur in advance of the testing session to prepare for telepractice administration of the BOT-3. This initial virtual

meeting is described in the Examiner Considerations section and referred to in various sections of this document. During this meeting, the examiner should understand the remote testing environment and qualifications of the facilitator, as well as consider best practice guidelines, the referral question, the examinee's condition, and any available equivalence evidence to determine if remote administration is possible and appropriate.

## **On-Site Facilitator**

Remote administration of the BOT-3 requires a facilitator to be present on-site at the examinee's location. The facilitator's role should be defined clearly by the examiner in advance of the testing session. The facilitator should only perform those functions the examiner deems necessary and instructs the facilitator to complete. The on-site facilitator will carry out different functions during test administration depending on their professional training and experience.

Examiners who administer the BOT-3 may train facilitators to work with them on a regular basis to provide greater coverage to underserved populations (e.g., in situations where there is a shortage of examiners within a large geographic region or a school district). If the facilitator is well trained and in a professional role (i.e., a professional facilitator, certified assistant), the examiner can observe the test administration while the facilitator presents test items, supervises for safety, and adjusts audiovisual equipment used during the telepractice administration. For standardized administration, the professional facilitator must have the BOT-3 manipulatives kit, Response Booklet, and Administration Easel (or Item Picture Book with on-screen administration through Q-global®, Pearson's secure online testing and scoring platform) readily available to use. This approach yields the BOT-3 subtest and composite scores that are available during a face-to-face administration.

In times when a professional facilitator is not available, it may be possible to administer the BOT-3 with the help of a nonprofessional on-site facilitator (e.g., a parent, guardian, caretaker) in the examinee's home or other location. With proper orientation to the responsibilities before the testing session, the on-site facilitator can assist with technological and administrative tasks during testing (e.g., providing pages of the Response Booklet). The examiner will interact with and observe the examinee via telepractice to obtain qualitative information on fine and gross motor skills (e.g., ability to manipulate small items, hopping on one foot). The clinician can review the BOT-3 items to identify relevant skills for structuring clinical observations. Even though items involving specific, standardized manipulatives cannot be administered remotely in this situation, performance observations using alternate materials can still provide useful information. This approach, however, does not allow for the calculation of scores. If using an on-site facilitator who is not in a professional role, the examiner should use their professional judgment about the capacity of the facilitator to perform the required functions correctly, safely, and without interfering in the testing session. Refer to [The Use of Facilitators in Remote Test Administration](#) for further information.

## **Scores Available With Telepractice Administration**

With a well-trained facilitator in a professional role (i.e., professional facilitator, certified assistant) and access to the BOT-3 equipment and materials, all BOT-3 subtests can be administered under observation of a remote examiner. Data from the test can be used to derive all subtest, domain,

composite, and supplemental scores. However, when using a nonprofessional facilitator (e.g., parent), the examiner will have to determine whether any of the subtests that do not require standardized manipulatives (i.e., Fine Motor Precision, Fine Motor Integration, Bilateral Coordination, and Balance) are appropriate to administer and score given the evaluation conditions.

If any subtests are deemed to be inappropriate for remote administration even with use of a professional facilitator, some domain, composite, and supplemental scores will not be available.

## Conducting Telepractice Assessment

Conducting a valid assessment in a telepractice service delivery model requires an understanding of the interplay of a number of complex issues. In addition to the general information on Pearson’s telepractice page, examiners should address five factors (Eichstadt et al., 2013) when planning to administer and score assessments via telepractice:

1. [Telepractice Environment & Equipment](#)
2. [Assessment Materials & Procedures](#)
3. [Examinee Considerations](#)
4. [Examiner Considerations](#)
5. [Other Considerations](#)

### 1. Telepractice Environment & Equipment

#### Computers and Connectivity

Two computers with audio and video capability and stable internet connectivity—one for the examiner and one for the examinee—are required. A web camera, microphone, and speakers or headphones are required for both the examiner and the examinee. A second computer screen or split-screen format on a large computer monitor for the examiner is helpful to allow a view of a Pearson-delivered digital manual or administration directions, but the examiner can also use the paper format manual or administration directions. The second computer screen or large screen also tends to make sharing test content more straightforward for the examiner.

#### Image/Screen Size

When items with visual stimuli are presented, the digital image of the visual stimuli on the examinee’s screen should be at least 9.7” measured diagonally, similar to an iPad® or iPad Air®. Some teleconferencing software shrink the size of images; the image size should be verified in the initial virtual meeting. It is recommended that computer screens used for teleconference assessment be at least 15” measured diagonally. Smaller screens, such as those of iPad minis, small tablet PCs, and smartphones, are not allowed for examinee-facing content, as these have not been examined empirically and may affect stimulus presentation, examinee response, and validity of the test results. Similarly, presenting stimuli on extremely large screens has not been examined, so the

same precaution applies. At the beginning of the testing session, the examiner may ask for a peripheral camera or device (as described later in this section) to be aimed at the examinee's screen to ensure that the examinee's screen is displaying images in the correct aspect ratio and not stretching or obscuring the stimuli image.

## **Audio Considerations**

High-quality audio capabilities are required during the administration. An over the head, two-ear, stereo headset with attached boom microphone is recommended for both the examiner and examinee. Headphones with a microphone may be used if a headset is not available.

The examiner should test the audio for both the examiner and examinee in the initial virtual meeting and at the beginning of the testing session to ensure a high-quality audio environment is present. Testing the audio should include an informal conversation prior to the administration where the examiner is listening for any clicks, pops, or breaks in the audio signal that distorts or interrupts the voice of the examinee. The examiner should also ask if there are any interruptions or distortions in the audio signal on the examinee's end. Any connectivity lapses, distractions, or intrusions that occurred during testing should be reported.

## **Audiovisual Distractions**

As with any testing session, the examiner should do everything possible to make sure the examinee's environment is free from audio and visual distractions. If the examiner is unfamiliar with the examinee's planned physical location, a visual tour of the intended testing room should be given during the initial virtual meeting. The examiner can then provide a list of issues to address to transform the environment into one suitable for testing. For example, remove distracting items, silence all electronics, and close doors. The examiner should confirm that these issues have been addressed at the time of testing. If possible, the examinee should be positioned facing away from the door to ensure the examiner can verify through the examinee's camera that the door remains shut and can monitor any interruptions. The examiner should confirm that all other applications on the computer, laptop, or peripheral device are closed, the keyboard is moved aside or covered after the session is connected, and alerts and notifications are silenced on the peripheral device. Radios, televisions, other cellular phones, fax machines, smart speakers, printers, and equipment that emit noise must be silenced and/or removed from the room.

## **Lighting**

Good overhead and facial lighting should be established for the examiner and examinee. Blinds or shades should be closed to reduce sun glare on faces and the computer screens.

## **Teleconferencing Software**

Teleconferencing software is required. Screen-sharing capability is required if anything other than items with verbal stimuli and responses are administered.

## Video

High-quality video (HD preferred) is required during the administration. Make sure the full faces of the examiner and the examinee are seen using each respective web camera during items administered at the table. In addition, alternative camera positions are needed when administering gross motor items so the examinee's full body and movements can be seen by the examiner for scoring. The teleconferencing software should allow all relevant visual stimuli to be fully visible to the examinee when providing instruction or completing items; the view of the examiner should not impede the examinee's view of visual test stimuli.

## Peripheral Camera or Device

A standalone peripheral camera can be used to provide a view of the session from another angle or a live view of the examinee's progress. Alternately, a separate device (e.g., a smartphone with a camera or another peripheral device) can be connected to the teleconference and set in a stable position to show the examinee's performance whether seated at the table or during gross motor tasks. The device's audio should be silenced and microphone should be muted to prevent feedback.

It is useful to have access to a moveable camera in the examinee's location during a telepractice administration of the BOT-3. The examiner should guide positioning of the peripheral camera/device before administering subtests so that the examiner can see the examinee's real-time performance. The peripheral camera or device may need to be repositioned throughout test administration, even within the same subtest, to ensure the examiner can score the performance accurately.

It may be necessary for examiners to think creatively about how to use a smartphone or other device in the examinee's location to gain a view of the examinee's progress in the Response Booklet or for gross motor actions. Online instructional videos (e.g., [here](#)) demonstrate how a smartphone may be used with common household objects (e.g., a tower or stack of books, paper weight, ruler, and rubber band or tape) to create an improvised document camera for use during tasks involving the Response Booklet. Typically, devices provide the best view of the examinee's responses when positioned in landscape orientation. While using additional cameras or devices/objects may not be an optimal solution for telepractice, it can be functional if executed well.

The examiner should work to become fluid and competent at directing on-site facilitators in these methods. It is recommended that the facilitator and examiner practice in the initial virtual meeting to prevent technical difficulties and so the on-site facilitator feels confident during the testing session.

## Screen Sharing Digital Components

The Administration Easel or the Item Picture Book should be at the examinee's location for the facilitator to present the visual stimuli used to teach the items. However, when an untrained facilitator is supporting test administration for clinical observation purposes, the examiner might find it useful to share the examinee-facing portion of the digital Administration Easel or Item Picture Book during a testing session. It is possible to do this remotely by using digital tools from Q-global. Specifically, Q-global digital assets (i.e., the Administration Easel and Item Picture Book) can be

shown to the examinee in another location via the screen-sharing features of teleconferencing software. Details regarding Q-global and how it is used are provided on the [Q-global product page](#).

The BOT-3 Demonstration Videos may also be shown using the screen-sharing features of teleconferencing software. Test out playing a video before the test session to make sure that the video plays without any streaming or visibility issues.

Always use full screen (i.e., presentation) mode for digital components viewed by the examinee. This provides the cleanest presentation of test content without on-screen distractions (e.g., extra toolbars). Refer to *Using Your Digital Assets on Q-global* in the Q-global Resource Library for complete directions on how to enter presentation mode.

## 2. Assessment Materials & Procedures

### Test Item Security

The examiner is responsible for ensuring test item security is maintained, as outlined in the Terms and Conditions for test use. The examiner should address test security requirements with the examinee (and facilitator, if applicable) during the informed consent process. The examiner should make it clear to the examinee/caregivers that the video should not be captured, photos should not be taken, and stimuli should not be copied or recorded, as this is a copyright violation. The examinee must agree that they will not record (audio or visual) or take photos or screenshots of any portion of the test materials or testing session, and not permit anyone to observe the testing session or be in the testing room (except for a facilitator, when necessary). Any test-related materials used in the testing session must be returned to the examiner.

### Disruptions

The examiner should document all atypical events that occur during the testing session. This may include delayed audio or video, disruptions to connectivity, the examinee being distracted by external stimuli, and any other anomalies. These should be considered during test interpretation and described in the written report. Refer to [Other Considerations](#) for guidance on report writing.

### Response Booklets

It is important to use the original Response Booklets for telepractice administration because these materials are required for standardized administration and are a custom size. Any copies or modifications will void the data collected and be a copyright infringement. The Response Booklets should be provided in advance of the testing session, and the plan for securing and forwarding/returning materials, real-time and after testing, should be communicated. The examiner may ask for the completed Response Booklet to be shown on camera immediately at the conclusion of a task so that the examiner can score it immediately and so responses are not lost or modified.

One successful approach to protecting test security uses sealed envelopes (i.e., the sealed envelope method) and is described as follows: The examiner gathers Response Booklets and a self-addressed stamped envelope. The examiner places these materials in an envelope and signs it on the seal, then mails or delivers it to the testing location. The examiner emphasizes that the sealed envelope

containing the Response Booklets must not be opened until the examiner asks. The Response Booklets are then placed in the provided self-addressed stamped envelope after completion of each subtest, sealed at the conclusion, and signed on the seal on camera, and then mailed or delivered with the test kit to the examiner immediately for scoring.

## **Manipulatives**

The standardized manipulatives from the BOT-3 kit must be used for any administration of the test, whether in-person or remote administration. Substitutions for the provided manipulatives are not permitted for standardized administration. Use of alternative manipulatives may allow for relevant clinical observations; however, alternative manipulatives result in nonstandardized examinee performance on the item and would result in a nonstandardized administration for which normative scores would not be valid.

## **Digital Assets**

The examiner should practice using the digital assets until the use of the materials is as smooth as an in-person administration. It is not recommended that the examiner display items from paper stimulus books by holding them up to a camera. Refer to *Using Your Digital Assets on Q-global* in the Q-global Resource Library for complete directions.

## **Gesturing**

It may on occasion be necessary for the examiner to gesture to areas of a paper copy of a Response Booklet or to show how to respond to demonstration items (e.g., Folding Paper) on the examiner's camera. Refer to [Table 1](#) for specific instructions by subtest.

## **Content Considerations**

Review [Table 1](#) for the specific telepractice considerations for each subtest to be administered.

**Table 1. Specific Telepractice Considerations**

Subtest	Considerations
Fine Motor Precision (FMP)	<ul style="list-style-type: none"> <li>• Requires a facilitator.</li> <li>• Materials and equipment in the <b>examinee’s</b> location (required):               <ul style="list-style-type: none"> <li>○ Response Booklet</li> <li>○ Pencil and scissors that meet standardization requirements                   <ul style="list-style-type: none"> <li>▪ Because the pencil and scissors are not specific to the BOT-3, an examiner may check with the on-site facilitator at the initial meeting to confirm availability. If the site does not have these manipulatives, the examiner could include them in the package with the Response Booklet sent before the testing session.</li> </ul> </li> <li>○ Table and chair appropriate for the examinee’s size (i.e., can sit comfortably to work at the table while resting feet on the floor).</li> </ul> </li> <li>• Materials and equipment in the <b>examiner’s</b> location (optional):               <ul style="list-style-type: none"> <li>○ Extra Response Booklet to show briefly on camera to orient the facilitator and examinee to the next item, if needed.</li> <li>○ Extra folding paper page for the examiner to demonstrate how to fold the corner of the page for the Folding Paper item.                   <ul style="list-style-type: none"> <li>▪ When using an untrained facilitator, consider completing the demonstration fold for the Folding Paper item before sending to the examinee’s location.</li> </ul> </li> </ul> </li> <li>• Place the peripheral camera/device in a stable position to show the examinee’s performance on tasks.</li> <li>• Train the facilitator to present the pages from the examinee Response Booklet and the manipulatives used in this subtest in compliance with the procedures described for each item in the BOT-3 administration directions.</li> <li>• Follow the instructions described in the administration directions for each item.</li> </ul>

Subtest	Considerations
Fine Motor Integration (FMI)	<ul style="list-style-type: none"> <li>• Requires a facilitator.</li> <li>• Materials and equipment in the <b>examinee’s</b> location (required): <ul style="list-style-type: none"> <li>○ Response Booklet</li> <li>○ Pencil that meets standardization requirements</li> <li>○ Table and chair appropriate for the examinee’s size (i.e., can sit comfortably to work at the table while resting feet on the floor)</li> </ul> </li> <li>• Materials and equipment in the <b>examiner’s</b> location (optional): <ul style="list-style-type: none"> <li>○ Extra Response Booklet to show briefly on camera to orient the facilitator and examinee to the next item, if needed.</li> </ul> </li> <li>• Place the peripheral camera/device in a stable position to show the examinee’s performance on tasks.</li> <li>• Train the facilitator to present the pages from the examinee Response Booklet in compliance with the procedures described for each item in the BOT-3 administration directions.</li> <li>• Follow the instructions described in the administration directions for each item.</li> </ul>
Manual Dexterity (MD)	<ul style="list-style-type: none"> <li>• Requires a well-trained facilitator in a professional role.</li> <li>• Materials and equipment in the <b>examinee’s</b> location (required): <ul style="list-style-type: none"> <li>○ Response Booklet</li> <li>○ Standardized manipulatives (i.e., pencil, box, tokens, token pad, pegs, pegboard, cards, blocks, string)</li> <li>○ Table and chair appropriate for the examinee’s size (i.e., can sit comfortably to work at the table while resting feet on the floor)</li> <li>○ Stopwatch for timed items</li> </ul> </li> <li>• For closest alignment to the standardized administration procedures, the Administration Easel or Item Picture Book should be present in the examinee’s location.</li> <li>• Materials and equipment in the <b>examiner’s</b> location (optional): <ul style="list-style-type: none"> <li>○ Extra Response Booklet to show briefly on camera to orient the facilitator and examinee to the next item, if needed.</li> </ul> </li> <li>• Place the peripheral camera/device in a stable position to show the examinee’s performance on tasks.</li> <li>• Follow the instructions described in the administration directions for each item.</li> </ul>

Subtest	Considerations
Upper-Limb Coordination (ULC)	<ul style="list-style-type: none"> <li>• Requires a well-trained facilitator in a professional role.</li> <li>• Materials and equipment in the <b>examinee's</b> location (required): <ul style="list-style-type: none"> <li>○ Standardized manipulatives (i.e., target, tennis ball)</li> <li>○ A large space (approximately 20 feet long with a wall at one end) clear of all furniture and other items for safety during administration</li> </ul> </li> <li>• For closest alignment to the standardized administration procedures, the Administration Easel or Item Picture Book should be present in the examinee's location.</li> <li>• Place the peripheral camera/device in a stable position to show the examinee's performance on tasks for each item. The camera may need to be repositioned throughout the subtest to facilitate scoring.</li> <li>• Follow the instructions described in the administration directions for each item.</li> </ul>
Bilateral Coordination (BC)	<ul style="list-style-type: none"> <li>• Requires a facilitator.</li> <li>• Materials and equipment in the <b>examinee's</b> location (required): <ul style="list-style-type: none"> <li>○ Table and chair appropriate for the examinee's size (i.e., can sit comfortably to work at the table while resting feet on the floor)</li> <li>○ A large space (approximately 10 feet long) clear of all furniture and other items for safety during administration</li> </ul> </li> <li>• For closest alignment to the standardized administration procedures, the Administration Easel or Item Picture Book should be present in the examinee's location.</li> <li>• Place the peripheral camera/device in a stable position to show the examinee's performance on tasks for each item. The camera may need to be repositioned throughout the subtest to facilitate scoring.</li> <li>• Follow the instructions described in the administration directions for each item.</li> </ul>

Subtest	Considerations
Balance (BA)	<ul style="list-style-type: none"> <li>• Requires a well-trained facilitator in a professional role.</li> <li>• Materials and equipment in the <b>examinee's</b> location (required): <ul style="list-style-type: none"> <li>○ Standardized manipulatives (i.e., target)</li> <li>○ A large space (at least 17 feet long and with a wall on one end) clear of all furniture and other items for safety during administration</li> <li>○ Stopwatch for timed items</li> </ul> </li> <li>• For closest alignment to the standardized administration procedures, the Administration Easel or Item Picture Book should be present in the examinee's location.</li> <li>• Place the peripheral camera/device in a stable position to show the examinee's performance on tasks for each item. The camera may need to be repositioned throughout the subtest to facilitate scoring.</li> <li>• Follow the instructions described in the administration directions for each item.</li> </ul>
Advanced Balance Items	<ul style="list-style-type: none"> <li>• Same requirements as the Balance subtest</li> <li>• Also requires the BOT balance beam in the examinee's location</li> </ul>
Strength (ST)	<ul style="list-style-type: none"> <li>• Requires a well-trained facilitator in a professional role.</li> <li>• Materials and equipment in the <b>examinee's</b> location (required): <ul style="list-style-type: none"> <li>○ Standardized manipulatives (i.e., target)</li> <li>○ A large space (at least 17 feet long and with a wall on one end) clear of all furniture and other items for safety during administration</li> <li>○ Stopwatch for timed items</li> </ul> </li> <li>• For closest alignment to the standardized administration procedures, the Administration Easel or Item Picture Book should be present in the examinee's location.</li> <li>• Place the peripheral camera/device in a stable position to show the examinee's performance on tasks for each item. The camera may need to be repositioned throughout the subtest to facilitate scoring.</li> <li>• Follow the instructions described in the administration directions for each item.</li> </ul>

Subtest	Considerations
Dynamic Movement (DM)	<ul style="list-style-type: none"> <li>• Requires a well-trained facilitator in a professional role.</li> <li>• Materials and equipment in the <b>examinee's</b> location (required): <ul style="list-style-type: none"> <li>○ Standardized manipulatives (i.e., shuttle block)</li> <li>○ A large space (at least 40 feet long) clear of all furniture and other items for Shuttle Run</li> <li>○ Stopwatch for timed items</li> </ul> </li> <li>• For closest alignment to the standardized administration procedures, the Administration Easel or Item Picture Book should be present in the examinee's location.</li> <li>• Place the peripheral camera/device in a stable position to show the examinee's performance on tasks for each item. The camera may need to be repositioned throughout the subtest to facilitate scoring.</li> <li>• Follow the instructions described in the administration directions for each item.</li> </ul>

**Evaluating Equivalence Evidence**

Examiners should review the current research available on equivalence between different modes of administration before proceeding to use remote administration of a standardized assessment with normative data collected via in-person assessment. When reviewing the literature, the examiner should consider the input and output requirements for each task and the evidence available for telepractice equivalence for the specific task type. Direct evidence of equivalence for a specific task may be available because the task was researched in a study with results indicating no significant difference between telepractice and in-person assessment. Indirect evidence may also be reported in the literature for a task that is similar in construct and input/output demands to the standardized assessment being considered for remote administration and may help determine the examiner's level of confidence in applying the norms. For instance, a study demonstrating direct evidence for the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS) Picture Naming subtest also demonstrates valuable indirect evidence for the WISC-V Vocabulary and CLQT+ Confrontation Naming subtests because Picture Naming, Vocabulary, and Confrontation Naming all require brief spoken directions with pictorial stimuli inputs with open-ended spoken response outputs. Examiners can have more confidence that the normative scores are valid when tasks have direct evidence showing equivalency between modes.

In reviewing the literature of telepractice-in-person and digital-traditional investigations, professionals should also be mindful of the age range and population (e.g., clinical group) of the research study to consider relevancy for the examinee. Greater caution is recommended when only indirect evidence of equivalency is available for a task or when equivalence has not been established for a particular examinee's age range and clinical condition. However, it can be informative to consider any such available evidence when considering impact of remote administration on results and interpretation. Pearson Clinical Assessment is tracking and aggregating the relevant equivalence

evidence for our assessments, including the age range, population, direct evidence, and indirect evidence (see [Evidence for Remote Assessment](#)).

Preliminary research has compared results obtained in telepractice and in-person administration modes for some assessment tools to determine equivalence. To date, no studies have investigated equivalence between these modes of administration for the BOT-3. Standardized, norm-referenced gross motor assessments have not been researched for the pediatric population, but some gross motor assessments for adult clients have shown feasibility, inter- and intrarater reliability, or equivalency between these modes of administration (Dorsey et al., 2010; Hoffmann et al., 2008; Hwang et al., 2017; Palsbo et al., 2007). Some standardized measures with fine or visual motor tasks included have been researched and shown feasibility, inter- and intrarater reliability, or equivalency between telepractice and in-person administration, but most research has again focused on adult examinees (Abdolahi et al., 2016; Dorsey et al., 2010; Hoffmann et al., 2008; Hwang et al., 2017; Stillerova et al., 2016).

While equivalence data on similar measures are relevant, practitioners should be mindful that more research is needed to establish equivalence in all ages and for all tasks on the BOT-3. Most telepractice-based studies were conducted with volunteer subjects in controlled environments and did not include motor performance tasks. Some studies that have established telepractice and in-person mode equivalence involved a professional facilitator. It should be noted that very little research has been done about remote assessment in private homes. However, preliminary research conducted and described by Lana Harder (Stolwyk et al., 2020) with parents serving as in-home facilitators who managed audiovisual needs and response booklets found no significant differences across modes. During most telepractice studies, though, the examinee is typically in an office- or school-based setting. Therefore, for in-home assessment, pay particular attention to preparing an environment that meets the guidelines described in the [Telepractice Environment & Equipment](#) section.

Telepractice involves the use of technology in assessment as well as viewing on-screen stimuli. For these reasons, studies that investigate assessment in digital versus traditional formats are also relevant. It is important to consider the conditions under which equivalence studies of telepractice and in-person assessment modes were conducted and attempt to reproduce these as closely as possible if testing via telepractice. Typical telepractice studies that support telepractice and in-person equivalence involve the examiner becoming very familiar with the teleconference platform by using it for its intended purpose for several hours and administering tests (even those that are familiar in in-person mode) multiple times to practice examinees.

[Table 2](#) lists the BOT-3 subtests and the input and output requirements of each set of items within the subtests.

**Table 2. Input and Output Requirements by Subtest**

	FMP	FMI	MD	BC	ULC	BA	ST	DM
<b>Inputs</b>								
Brief spoken directions	X	X	X	X	X	X	X	X
Pictorial stimuli	X	X	X	X	X	X	X	X
Spoken stimuli	X		X	X	X	X	X	X
Gestured directions		X	X	X	X	X	X	X
Motor demonstration	X		X	X	X	X	X	X
Physical manipulatives	X	X	X		X	X	X	X
Paper Response Booklet	X	X	X					
<b>Outputs</b>								
Written or fine motor response	X	X	X					
Item-level time limit			X	X	X	X	X	X
Gross motor response				X	X	X	X	X

### 3. Examinee Considerations

#### Appropriateness

The examiner should first ensure that a telepractice administration is appropriate for the examinee and for the purpose of the assessment. Clinical judgment, best practice guidance for telepractice (e.g., AOTA, 2020; APA Services, 2020; ASPPB, 2013; IOPC, 2020), information from professional organizations and other professional entities (e.g., licensing boards, legal resources, professional liability insurance providers, payors), consultation with other knowledgeable professionals, existing research, and any available federal or state regulations should be considered in the decision-making process. Consideration should be given to whether the necessary administrative and technological tasks involved in a telepractice session can be accomplished without influencing results.

#### Preparedness

Before initiating test administration, the examiner should ensure that the examinee is well-rested, able, prepared, and ready to appropriately and fully participate in the testing session.

#### Facilitator Role

If using a facilitator, the role of the facilitator must be explained to the examinee so participation and actions are understood.

## **Headset**

It may not be appropriate or feasible for some examinees to use a headset due to behavior, positioning, physical needs, or tactile sensitivities, or if a headset is not available. Clinical judgment on the appropriate use of a headset in these situations should be used. If a headset is not utilized, the examiner's and examinee's microphones and speakers should be turned up to a comfortable volume.

## **Mouse**

On some teleconferencing software, the examiner can pass control of the mouse to allow the examinee to point to indicate responses; this is an option if it is within the capabilities of the examinee. However, best practice guidelines provide cautions about this. For example, the IOPC guidelines suggest examiners be alert throughout administration, resume control of the screen once the task is finished, and never leave the computer unattended while the examinee has control over the examiner's computer (IOPC, 2020).

# **4. Examiner Considerations**

## **Practice**

During the telepractice setup, and before administering to any actual examinee, the examiner should rehearse the mechanics and workflow of every item in the entire test using the selected teleconferencing software so that the examiner is familiar with the administration procedures. For example, a colleague could be used as a practice examinee.

## **Standardized Procedures**

The examiner must follow the administration procedures of in-person administration as much as possible and use the standardized manipulatives and print materials from the test kit. For example, if a spoken stimulus cannot be said more than once in in-person administration, the examiner must not say it more than once in a telepractice administration unless a technical difficulty precluded the examinee from hearing the stimulus.

## **Real-Time Troubleshooting**

In order to conduct a smooth telepractice session, audiovisual needs and materials must be managed appropriately. The initial virtual meeting involves the examiner, examinee, and/or the facilitator (if used), and is the opportunity for the examiner to provide information about the audiovisual needs and materials. During the initial virtual meeting, the examiner should provide training in troubleshooting audiovisual needs that arise during the testing session, including camera angle, lighting, and audio checks. The examiner should provide verbal feedback to guide camera adjustment, checking the on-screen video shown by the peripheral camera/device to provide information about how to reposition it until the proper view is shown. The examiner should emphasize that no materials should be opened until the examiner provides instructions to do so, if

applicable. The examiner should also expect to provide verbal guidance about these issues during the testing session.

## Collaborating With Facilitators

If used, the facilitator is to assist with administrative and technological tasks and not to manage rapport, engagement, or attention during the testing session. The examiner should direct them not to interfere with the examinee's performance or responses. Any other roles and responsibilities for which an examiner needs support, such as behavior management, should be outlined and trained prior to the beginning of the testing session. The examiner is responsible for documenting all behaviors of the facilitator during test administration and taking these into consideration when reporting scores and performance. Refer to the [Telepractice Environment & Equipment](#) section and to [Table 1](#) for specific subtest telepractice considerations.

## 5. Other Considerations

There are special considerations for written reports describing testing that takes place via telepractice. The professional completing the written report should state in the report that the test was administered via telepractice and briefly describe the method of telepractice used. The professional should also make a clinical judgment, similar to an in-person session, about whether or not the examiner was able to obtain the examinee's best performance. Clinical decisions should be explained in the report, including comments on the factors that led to the decision to conduct testing via telepractice and to report all (or not to report suspect) scores. In addition, it is recommended that the report include a record of all atypical events during the testing session (e.g., delayed video or audio, disruptions to connectivity, extraneous noises such as phone ringing or loud dog barking, person or animal unexpectedly walking into room, the examinee responding to other external stimuli). List and describe these anomalies as is typical for reporting behavioral observations in the written report, as well as any observed or perceived impact on the testing sessions and/or results, and consider these in the interpretation of results.

An example of a written report might include:

*"The BOT-3 was administered via remote telepractice using an on-site facilitator to monitor the administration during the live video connection via [name of telepractice system (e.g., Zoom)]. Digital stimulus materials were presented using Pearson's Q-global system. For appropriate subtests (i.e., Fine Motor Precision, Fine Motor Integration, and Manual Dexterity), the Response Booklet was provided in advance to the on-site facilitator and returned to the examiner for scoring. The remote testing environment appeared free of distractions, adequate rapport was established with the examinee via video/audio, and the examinee appeared appropriately engaged in the task throughout the session. No significant technological problems or distractions were noted during administration. Modifications to the standardization procedure included: [list all modifications]. Tasks similar to those included in the BOT-3 subtests have received initial validation for remote administration in telepractice, and the results are considered a valid description of the examinee's skills and abilities."*

## Conclusion

Provided that the examiner has thoroughly considered and addressed the factors and the specific considerations as listed above, the examiner should be prepared to observe and comment about the reliable and valid delivery of the BOT-3 via telepractice. However, the BOT-3 was not standardized using remote administration. Deviations from standardized procedures should be taken into consideration when utilizing this test via telepractice and interpreting results. The examiner should consider relying on convergence of multiple data sources and/or being cautious about conclusions drawn by remote administration of the BOT-3.

Materials may be used via telepractice without additional permission from Pearson in the following published contexts:

- BOT-3 manuals and digital stimulus book via Q-global
- BOT-3 on-screen administration via Q-global
- BOT-3 via a Pearson-licensed telepractice provider/platform

Any other use of this test via telepractice is not currently recommended. This includes, but is not limited to, administering the assessment without a facilitator, scanning the paper administration easel, digitizing the paper record forms, physically holding the Administration Easel up in the camera's viewing area, or uploading a manual onto a shared drive or site.

## References

- Abdollahi, A., Bull, M. T., Darwin, K. C., Venkataraman, V., Grana, M. J., Dorsey, E. R., & Biglan, K. M. (2016). A feasibility study of conducting the Montreal Cognitive Assessment remotely in individuals with movement disorders. *Health Informatics Journal*, 22(2), 304–311. <https://doi.org/10.1177/1460458214556373>
- American Occupational Therapy Association (AOTA). (2020). *Telehealth resources*. <https://www.aota.org/Practice/Manage/telehealth.aspx>
- American Psychological Association Services (APA Services). (2020). *Guidance on psychological tele-assessment during the COVID-19 crisis*. (2020). [https://www.apaservices.org/practice/reimbursement/health-codes/testing/tele-assessment-covid-19?fbclid=IwAR1d\\_YNXYS2Yc5mdlz\\_ZIYSkrrJ\\_6A9BQeKulHxEEjjRh1XDR6fOYncM3b4](https://www.apaservices.org/practice/reimbursement/health-codes/testing/tele-assessment-covid-19?fbclid=IwAR1d_YNXYS2Yc5mdlz_ZIYSkrrJ_6A9BQeKulHxEEjjRh1XDR6fOYncM3b4)
- Association of State and Provincial Psychology Boards (ASPPB). (2013). *ASPPB telepsychology task force principles and standards*. [http://houstonneuropsych.com/wp-content/uploads/2020/04/ASPPB\\_TELEPSYCH\\_PRINCIPLES.pdf](http://houstonneuropsych.com/wp-content/uploads/2020/04/ASPPB_TELEPSYCH_PRINCIPLES.pdf)
- Bruininks, B. D., & Bruininks, R. H. (2024). *Bruininks-Oseretsky Test of Motor Proficiency* (3rd ed.). Pearson.
- Cason, J., Hartmann, K., & Richmond, T. (2018). Telehealth in occupational therapy. *The American Journal of Occupational Therapy*, 72, 1–18. <https://doi.org/10.5014/ajot.2018.72S219>
- Dorsey, E. R., Deuel, L. M., Voss, T. S., Finnigan, K., George, B. P., Eason, S., Miller, D., Reminick, J. I., Appler, A., Polanowicz, J., Viti, L., Smith, S., Joseph, A., & Biglan, K. M. (2010). Increasing access

- to specialty care: A pilot, randomized controlled trial of telemedicine for Parkinson's disease. *Movement Disorders*, 25(11), 1652–1659.  
<https://movementdisorders.onlinelibrary.wiley.com/doi/abs/10.1002/mds.23145>
- Eichstadt, T. J., Castilleja, N., Jakubowitz, M., & Wallace, A. (2013, November). Standardized assessment via telepractice: Qualitative review and survey data [Paper presentation]. Annual meeting of the American Speech-Language-Hearing Association, Chicago, IL, United States.
- Grosch, M. C., Gottlieb, M. C., & Cullum, C. M. (2011). Initial practice recommendations for teleneuropsychology. *The Clinical Neuropsychologist*, 25, 1119–1133.  
<https://doi.org/10.1080/13854046.2011.609840>
- Hoffmann, T., Russell, T., Thompson, L., Vincent, A., & Nelson, M. (2008). Using the Internet to assess activities of daily living and hand function in people with Parkinson's disease. *NeuroRehabilitation*, 23(3), 253–261. <https://doi.org/10.3233/NRE-2008-23307>
- Hwang, R., Mandrusiak, A., Morris, N. R., Peters, R., Korczyk, D., & Russell, T. (2017). Assessing functional exercise capacity using telehealth: Is it valid and reliable in patients with chronic heart failure? *Journal of Telemedicine and Telecare*, 23(2), 225–232.  
<https://doi.org/10.1177/1357633X16634258>
- Inter Organizational Practice Committee (IOPC). (2020). *Recommendations/guidance for teleneuropsychology (TeleNP) in response to the COVID-19 pandemic*.  
<https://static1.squarespace.com/static/50a3e393e4b07025e1a4f0d0/t/5e8260be9a64587cfd3a9832/1585602750557/Recommendations-Guidance+for+Teleneuropsychology-COVID-19-4.pdf>
- Palsbo, S. E., Dawson, S. J., Savard, L., Goldstein, M., & Heuser, A. (2007). Televideo assessment using Functional Reach Test and European Stroke Scale. *Journal of Rehabilitation Research & Development*, 44(5), 659–664. <https://doi.org/10.1682/jrrd.2006.11.0144>
- Stillerova, T., Liddle, J., Gustafsson, L., Lamont, R., & Silburn, P. (2016). Could everyday technology improve access to assessments? A pilot study on the feasibility of screening cognition in people with Parkinson's disease using the Montreal Cognitive Assessment via internet videoconferencing. *Australian Occupational Therapy Journal*, 63(6), 373–380.  
<https://doi.org/10.1111/1440-1630.12288>
- Stolwyk, R., Hammers, D. B., Harder, L., & Cullum, C. M. (2020). *Teleneuropsychology (TeleNP) in response to COVID-19*.  
[https://the-ins.org/files/webinars/20200402\\_covid19/INS\\_COVID19\\_Webinar-20200402.pdf](https://the-ins.org/files/webinars/20200402_covid19/INS_COVID19_Webinar-20200402.pdf)