

### **General Questions: Training, Reliability, Becoming a Trainer, Translation**

#### **Q: What is an ADOS “clinical training workshop?”**

The ADOS Training for Clinicians workshop takes two days and uses a lecture format to introduce people to the basic principles of administering and scoring all four ADOS modules. The WPS Video training materials also provide an overview of administration and coding. *(Note: If you plan to attend an ADOS Research Training and use the ADOS in research, you must attend the ADOS Training for Clinicians workshop in person.)* Either of these provides one of the essential steps toward competence in using the ADOS in everyday clinical practice.

#### **Q: What is a “research training workshop” for the ADOS or ADI-R?**

ADOS and ADI-R Research training focuses on bringing attendees’ administration and scoring skills to a high level of inter-rater agreement with the scoring practices of skilled examiners. The heightened level of accuracy is needed to ensure that item-level coding is comparable at different labs in different parts of the world where research is being conducted. For the ADOS, trainees must have completed the ADOS Training for Clinicians workshop in person prior to attending the ADOS Research training. Research courses are usually conducted at the university laboratory of one of the test authors. They may also be obtained by contracting on an individual basis with a certified independent trainer on the instrument. For a list of independent trainers, see our website: <http://www.umaccweb.com/education/trainerslist.html>

Schedules, applications, and more information on UMACC’s training workshops are available online at [www.umaccweb.com/education/index.html](http://www.umaccweb.com/education/index.html).

#### **Q: How can I get training on the ADI-R or ADOS?**

UMACC offers training on the ADI-R and ADOS once per year for each instrument. The ADI-R Research Training is a 2 ½-day training that provides intensive instruction on the psychometrics of the instrument, small group work on administering and scoring the ADI-R, and discussion and question/answer about specific administration and coding issues.

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## ADOS/ADI-R FAQs

Initial training on the ADI-R also is available through a training package published by Western Psychological Services (WPS). This package includes videotaped administrations and a training manual. Contact [www.wpspublish.com](http://www.wpspublish.com) for purchasing information. To use the ADI-R in research, you still will have to complete the ADI-R Research Training and establish reliability on the instrument.

The ADOS Training for Clinicians is a 2-day training that is intended for clinicians interested in an introduction to the ADOS and is a required first step in the process for establishing reliability. It includes a combination of large group lecture, demonstration, and scoring of the ADOS. Clinical ADOS training is also available through WPS in many locations. In addition, WPS offers a training package that may serve as a substitute for the clinical training. It does not fulfill the initial training requirement for those who are interested in achieving reliability for research. This package includes videotaped administrations and a training manual. Contact [www.wpspublish.com](http://www.wpspublish.com) for purchasing information.

The ADOS Research Training is a 2 ½-day training and, like the ADI-R Research Training, involves more intensive instruction on the psychometrics of the instrument, working in small groups on administering and scoring the ADOS, and discussion and question/answer about specific administration and coding issues.

Schedules, applications, and more information on UMACC's training workshops are available online at [www.umaccweb.com/education/index.html](http://www.umaccweb.com/education/index.html).

### **Q: Who may attend an ADOS Training for Clinicians workshop?**

Typically, attendees are individuals who will be qualified to use the ADOS—that is individuals who, prior to the workshop, have education, training and experience in using individually administered test batteries and who have a background and experience in the treatment of autism. Some examples of clinicians who have a professional mandate to treat autism and who make use of the ADOS in their daily work are clinical and school psychologists, psychiatrists, occupational therapists, and speech and hearing professionals. In some cases, schools and clinics will send additional staff to a workshop with a view that a better understanding of the instrument will help their teachers, counselors, special educators, or other program staff make better use of reports based on ADOS results. Note that in all cases, however, simple attendance at the workshop is not sufficient to ensure competent use of the ADOS.

## ADOS/ADI-R FAQs

### Q: Do I need to establish reliability on the ADI-R/ADOS?

If you plan to use either the ADI-R or the ADOS for research purposes, you will need to establish reliability on the instrument **before you begin collecting data**. Establishing and maintaining reliability is crucial to maintaining consistency and comparability across research studies on Autism.

If you plan to use either instrument for clinical purposes only, you are welcome, but not required, to establish reliability on the instrument. Individuals planning to use the ADOS in clinical or school settings are strongly encouraged to attend an ADOS Training for Clinicians before using the instrument. Individuals planning to use the ADI-R in clinical or school settings are encouraged to complete the videotaped training package available from WPS.

### Q: What is the process for establishing reliability on the ADI-R or ADOS?

#### Establishing ADOS Reliability

To obtain reliability on the **ADOS**, you must first complete both the Training for Clinicians and the Research Training. Once you have completed the ADOS Research Training, you must establish reliability on the instrument **before you begin any data collection for a research project**. There are two factors in establishing your reliability: 1) showing that you have learned the standardized administration procedures, and 2) showing that you understand coding rules and have achieved at least 80% agreement with our lab. In order to achieve reliability, we must evaluate your administration and coding on three different administrations of the Modules 1 / 2 and on three different administrations of Modules 3 / 4.

#### 1. *Complete the ADOS training workshops.*

Again, you must complete both the ADOS Training for Clinicians and the ADOS Training for Researchers.

#### 2. *Demonstrate standardized administration procedures.*

You must demonstrate your understanding of standardized administration procedures on 3 separate administrations each for Modules 1 / 2 and Modules 3 / 4. Administrations of the ADOS completed for the ADOS Research Training can be included in this process. Demonstrations of administration procedures can include:

- Your pre-course review tape submitted for the ADOS Training for Researchers

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- Administrations of the ADOS you do during the Research Training workshop
- Your post-course taped administration submitted to us for reliability scoring

### *3. Establish reliability in coding the ADOS.*

You must reach 80% agreement with our lab or another designated group on 3 administrations of the ADOS Modules 1 / 2 and 3 administrations of ADOS Modules 3 /

4. Agreement is calculated separately for the diagnostic algorithm and for the protocol in total, and you must achieve 80% agreement on both. If you are working with UMACC or another independent trainer to establish reliability, administrations can include:

- Administrations of the ADOS during the Research Training workshop
- Your scoring of the administrations on the post-course tape we send home with you after the Research Training workshop
- Your post-course taped administrations submitted to us for reliability scoring

This information also is available on our website:

[www.umaccweb.com/education/adosreli.html](http://www.umaccweb.com/education/adosreli.html)

You also may establish reliability with another reliable coder who works with you at your work site, provided you see them on a daily basis. See below for details.

### Establishing ADI-R Reliability

To obtain reliability on the **ADI-R**, you must first complete the ADI-R Research Training. Again, you should establish reliability **before you begin any data collection**. People are considered reliable when they achieve 90% agreement or better with a reliable coder on the algorithm and the protocol across 3 administrations, as described below.

1. *Complete the ADI-R 2 ½ Day Research Training workshop.*

2. *Demonstrate standardized administration procedures.*

You must demonstrate your understanding of standardized administration procedures on 3 separate administrations. Administrations of the ADI-R completed for the ADI-R Research Training can be included in this process. Demonstrations of administration procedures can include:

- Your pre-course review tape submitted for the ADI-R Training for Researchers
- Administrations of the ADI-R you do during the training workshop
- Your post-course taped administration submitted to us for reliability scoring

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## ADOS/ADI-R FAQs

### 3. Establish reliability in coding the ADI-R.

You must reach 90% agreement with our lab or another designated group on 3 administrations of the ADI-R. Agreement is calculated separately for the diagnostic algorithm and for the protocol in total, and you must achieve 90% agreement on both. If you are working with UMACC or another independent trainer to establish reliability, administrations can include:

- Administrations of the ADI-R during the training workshop
- Your scoring of the administration on the post-course tape we send home with you after the training workshop
- Your post-course taped administration submitted to us for reliability scoring

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[www.umaccweb.com/education/adireli.html](http://www.umaccweb.com/education/adireli.html).

You also may establish reliability with another reliable coder who works with you at your work site, provided you see them on a daily basis. See below for details.

### **Q: Can I establish reliability with someone in my lab?**

#### **ADOS:**

If you work with someone who has established reliability on the ADOS, you can complete the steps of establishing reliability with that person, as long as you are working at the same physical site and have frequent (i.e., daily) contact to talk about coding and administration issues. To establish reliability with someone at your site, you must achieve 80% agreement in coding with the ADOS-reliable examiner across 3 consecutive administrations of Modules 1 / 2 and 3 consecutive administrations of Modules 3 / 4. Within these 6 administrations, all 4 modules must be represented. Your ADOS-reliable examiner also must see you administer all 4 modules at some point during the reliability process. You and the reliable examiner must double-score administrations (that is, code an administration independently, then check your reliability with one another) until you have established 80% agreement among yourselves on 3 independently scored administrations of the ADOS.

#### **ADI-R:**

If you work with someone who has established reliability on the ADI-R, you can complete the steps of establishing reliability with that person, as long as you are working at the same physical site and have frequent (i.e., daily) contact to talk about coding and administration issues. To establish reliability with someone at your site, you must achieve 90% agreement in coding with the ADI-R-reliable examiner across 3 consecutive administrations. Your ADI-R-reliable examiner also must see you administer the ADI-R during at least one of the 3 reliable administrations. You and the

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## ADOS/ADI-R FAQs

reliable examiner must double-score administrations (that is, code an administration independently, then check your reliability with one another) until you have established 90% agreement among yourselves on three independently scored administrations.

### **Q: Are training workshops offered any other times?**

The ADOS Training for Clinicians is offered by Western Psychological Services (WPS) at various times and places. WPS also has created a videotaped training package, which may substitute for the Training for Clinicians if you are only going to use the ADOS in clinical or school settings. Contact WPS at [www.wpspublish.com](http://www.wpspublish.com) for more information.

*\*\*\*Please note that, if you plan to go on to attend the ADOS Research training, you must attend the formal 2-day ADOS Training for Clinicians workshop. The training tapes are not a substitute for the 2-day training if you plan to attend the Research training.*

Groups of researchers or clinicians can sometimes arrange for ADOS or ADI-R **Research** Training through an independent ADI-R or ADOS Trainer. These trainers have completed the initial trainings, established reliability on the instrument, and completed the additional training through UMACC or another approved group for being able to train others. These independent trainers' schedules and fees may vary. For a list of names and contact information for ADOS and ADI-R trainers, check the UMACC website: <http://www.umaccweb.com/education/trainerslist.html>.

UMACC also offers one traveling training per year at the site of a selected research project receiving NIH/NIMH funding. Applications for this training are available annually, usually in January, on our ADOS and ADI-R Training Workshops webpage: <http://www.umaccweb.com/education/onsite.html>

### **Q: How do I become a trainer on the ADOS or ADI-R?**

#### **ADOS:**

After completing the clinical and research trainings for the ADOS, and establishing reliability on all 4 modules, you may want to complete the additional training to be able to train others at different research or clinic sites. This involves attending the ADOS Research Training again as a Trainer in Training. Trainers in Training help lead small groups in administering and scoring the ADOS during the training workshop. After the workshop, trainers in training must confirm reliability with us on one more set of reliability tapes.

#### **ADI-R:**

After completing the ADI-R Research Training, and establishing reliability on the measure, you may want to complete the additional training to be able to train others at

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different research or clinic sites. This involves attending the ADI-R Research Training again as a Trainer in Training. Trainers in Training help lead small groups in administering and scoring the ADI-R during the training workshop. After the workshop, trainers in training must confirm reliability with us on one more reliability tape.

More information is available on our website:

[www.umaccweb.com/education/trainerintraining.html](http://www.umaccweb.com/education/trainerintraining.html).

### **Q: Can I train other people at my site on the instruments?**

**If you have established reliability** on either the ADOS or the ADI-R, you can train others on that instrument, *as long as they work at the same physical site, and you see them on a regular basis*. In other words, if I work at the University of Michigan, I can train another University of Michigan faculty person and have that person establish reliability with me. However, if I work at the University of Chicago, I cannot train someone who works at Northwestern, even if we are collaborating.

### **Q: Once I have obtained ADOS clinical training, can I train someone else?**

No. The WPS materials are designed to provide training to individual users only. Completion does not provide the additional materials and experiences required for the skills needed to train others. Further training through the specialized research training course offered by the research community is required before others may be trained. (See next question).

### **Q: Once I have ADOS/ADI-R research training, can I train someone else?**

Only in limited circumstances. A researcher who has taken the ADOS clinical workshop and the ADOS research workshop and achieved reliability with UMACC or another reliable research team can, back in their home lab, train people that they work with on a daily basis. A researcher who has taken the ADI-R Research Training and achieved reliability with UMACC or another approved research group can also train people they work with on a daily basis. Note that even the original trainee at a research site is not seen as qualified to train people away from their own location until they undergo further practice and supervision in actual training.

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## ADOS/ADI-R FAQs

### **Q: Can I make copies of ADOS or ADI-R materials?**

No. Use of photocopies, adaptations, translations or other variations is expressly prohibited unless explicit permission is granted by WPS. Researchers are eligible to purchase materials at a discount and there is a discount for materials purchased for use in university-based training programs. These rules are applicable outside as well as within the United States. Please contact WPS directly for further information.

### **Q: I have some old versions of the ADI-R/ADOS. Can I still use them?**

No. WPS is the publisher and copyright holder of both instruments. Please begin use of the WPS materials and discard your old versions.

### **Q: How can the ADOS and ADI-R be used in translation?**

WPS keeps an updated list of international publishers for the ADI-R, ADOS, and SCQ available at

[http://portal.wpspublish.com/portal/page?\\_pageid=53,82771&\\_dad=portal&\\_schem](http://portal.wpspublish.com/portal/page?_pageid=53,82771&_dad=portal&_schem)

Formal commercial publication has been arranged for the following languages in their respective countries:

### **ADOS:**

English (Australia, Canada, United Kingdom)

Danish

Dutch (In press)

Finnish (In press)

French (In press)

German

Hungarian (In press)

Icelandic (In press)

Italian

Korean (In press)

Norwegian (In press)

Spanish (Spain; In press)

Swedish (In press)

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### ADI-R

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French (In press)

German

Hungarian (In press)

Icelandic (In press)

Italian

Korean (In press)

Norwegian (In press)

Spanish (Spain)

Swedish

### SCQ:

English (Australia, Canada, United Kingdom)

Danish

Dutch

Finnish (In press)

French (In press)

German

Hungarian (In press)

Icelandic (In press)

Italian (In press)

Korean (In press)

Norwegian (In press)

Spanish (Spain)

Swedish (In press)

All other uses in translation must have the prior, written consent of WPS. Contact Susan Weinberg through WPS Rights and Permissions: [weinberg@wpspublish.com](mailto:weinberg@wpspublish.com).

Approved research translations are also available in several widely spoken languages through this office.

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### ADOS-Specific Questions

#### **Q: Who can attend ADOS training?**

The ADOS can be used by professionals who are very familiar with Autism Spectrum Disorders (ASD). Prior to attending the training, we recommend that people have experience in clinical assessment in general, and that they have substantial experience working with individuals with Autism. The examiner's clinical skills and experience with the ADOS are crucial to administration. There are no specific educational requirements for using the ADOS, as long as you have the experience indicated above. The ADOS has been given by clinical psychologists, school psychologists, speech/language pathologists, psychiatrists, pediatricians, social workers, graduate students, and other Autism specialists.

#### **Q: What is required for someone to become competent to use the ADOS?**

To obtain essential competence, ADOS users should:

1. Have prior education, training and experience that include extensive exposure to Autism and PDD.
2. Take an in-person clinical training workshop, either through UMACC or WPS, or use the WPS training video and accompanying materials. These provide the equivalent of 2 days (12 contact hours) training specific to the ADOS. (Note: If you plan to attend the ADOS Research training and to use the ADOS in research, you must attend the ADOS Clinical training in person.)
3. Practice using the ADOS on cases that are not part of formal evaluations and bring yourself to complete familiarity with the assessment activities and complete confidence that you can apply the coding categories accurately. Examiners with considerable prior experience in making formal observations and administering individual assessments may reach this level in as few as 8 practice sessions (2 per module). Others may take considerably more practice.
4. If a user is to be involved in formal research directed at producing articles for publication in peer-review journals, he or she must additionally take a research training workshop followed by exercises that establish item coding accuracy to a specific criterion.

#### **Q: What scores result from the ADOS?**

The ADOS results in cutoff scores indicating a classification of Autism or Autism Spectrum. Individuals must meet the cutoff for Autism or Autism Spectrum on the Communication domain, the Reciprocal Social Interaction domain, and the Total Score to receive a classification.

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At this point, scores on the ADOS are not interpreted as a measure of symptom severity. In other words, higher scores do not necessarily indicate that an individual is “more autistic” or “lower functioning” than those who receive lower scores. Higher scores indicate the presence of more or more prevalent symptoms; however, the numbers that are added to create total scores do not represent real intervals. Research is in progress to develop severity scores that could then be used in measuring intervention or medication effects.

### **Q: Is coding and scoring the ADOS “subjective?”**

The ADOS is anything but “subjective.” The ADOS is, as its name specifies, a schedule of “observations.” This stands in contrast to a norm-referenced objective test. For a norm-referenced objective test, questions are designed to elicit specific responses that are easily and immediately categorized. However, these responses are most often based on observations and/or reports. A “yes/no” answer is in no way more objective than a 0-2 coding.

Behaviors observed in social interaction are not discrete events and cannot be categorized easily. There is a long history of scientific observation of behavior that has developed quite separately from the history of classical test development. The observation categories used in the ADOS have been developed over several decades and have been tested and proven to produce accurate inter-rater agreement on the classes of behavior that are fundamental to the diagnosis of ASDs.

For all assessments, behavioral observations or classical tests, discrete individual test items and coding categories have lower rates of reliability than do the total scores that are used to inform final interpretation and diagnostic decision making. For example, individual items on personality and objective behavior checklists often have internal consistency estimates in the range .30 to .40. It is only when these are combined into scales that reliabilities become adequate for score interpretation. A parallel circumstance exists for observation schedules like the ADOS. The final results for ADOS algorithm scores, as reported in the manual and scientific literature, demonstrate a high degree of reliability and accuracy. However, compared to the user of some other tests, a heavier burden does fall on the ADOS user who must work hard to insure that the codings of individual behaviors are as accurate as possible

### **Q: Does the ADOS diagnose Autism and other ASDs?**

Scores on the ADOS result in a classification rather than a diagnosis. Cutoff scores result in a classification of Autism or a classification of Autism Spectrum. Although there are

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separate cutoffs, these should not be interpreted as equivalent to distinguishing Asperger Syndrome or Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS) from Autism. Our research suggests that a significant minority of children with milder ASDs (such as Asperger or PDD-NOS) may not consistently score in the Autism Spectrum range on the ADOS. Many meet Autism cutoffs, most meet the Autism Spectrum cutoffs, and some score in the nonspectrum range. You will have to weigh the results of the ADOS with other information to distinguish among Autism, PDD-NOS, and Asperger Syndrome. The ADOS should be used as one tool in an overall evaluation and diagnosis of Autism or other ASDs, along with a parent history and information from other sources, such as teachers. While it yields important information, scores should not be used alone in diagnosing Autism and other ASDs.

### **Q: For what ages can the ADOS be used?**

The ADOS can be used with toddlers up to adults, with individuals who are nonverbal to individuals who are verbally-fluent. The manual recommends a minimum mental age equivalent at a developmental level of 18 months. The ADOS has been used with children who have mental age equivalents below that level; results for children with nonverbal mental age equivalents below 15 months need to be interpreted with caution. Adults who are nonverbal can also receive Module 1 of the ADOS, although some of the tasks and materials involved will not be age-appropriate. We are concerned about the appropriateness of some of the toys in the early modules for older children, but devising a special kit for older children and adults who are in the lower modules is an expensive and complicated endeavor because materials have to be safe and interesting. In many cases, the adults we work with are quite interested in the toys, and will choose them over more adult-appearing materials. It's up to the examiner to decide what he or she is most comfortable with. If the examiner is uncomfortable, the person whom he or she is working with is very likely to be uncomfortable too. A recent article by Berument and colleagues investigated modifications to an earlier version of Module 1 of the ADOS, the PL-ADOS, for nonverbal adults:

- Berument, S. K., Starr, E., Pickles, A., Tomlins, M., Papanikolaou, K., Lord, C., et al. (2005). Pre-linguistic autism diagnostic observation schedule adapted for older individuals with severe to profound mental retardation: A pilot study. *Journal of Autism and Developmental Disorders*, 35(6), 821-829.
- We also have a list of recommended materials for adults and adolescents who need a Module 1 or 2, available upon request.

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### **Q: What is the youngest age at which the ADOS may be used?**

For valid interpretation of the Algorithm scores, the child should have a non-verbal developmental age of 15 months or higher and must be able to walk independently. The latter requirement does tie the decision a bit more to chronological markers than would sole attention to developmental age in the most rigid sense. Current research indicates that the ADOS algorithm is not sufficiently specific for kids with nonverbal age equivalents under 15 months (and should be interpreted with more than usual caution through 18 months age equivalents).

We stress, however, based on data so far reviewed, that the individual items are still reliable across raters and time even for developmentally younger children. The results also appear to be valid in terms of discriminating autism from non-autism when obtained scores are not near the cut-off scores. It is just that when scores occur near the cut-offs that the algorithm recommendations premised on results from older children may not apply as accurately. So it is not that people cannot use the information they get when they use the ADOS in the first 12 months of development, but that they have to be wary of interpreting the algorithm in the same way as they would with older children. As with any testing, the decision should be a professional judgment based on multiple sources of evidence, never a rule based on rigid application of a single test score.

The above concerns apply only to Module 1. After Module 1, the determinations are based on expressive language level that is determined during the administration of the ADOS. We recommended that people could use the expressive language level from the Vineland as an estimate to determine where to start, but in the end, how well the child talks during the actual session is the final basis for the decision.

### **Q: Is the ADOS still valid if it is done in a home setting?**

It is more difficult to do an ADOS in a home because of the distractions and the need to have space, to some degree, in the control of the examiner. These reasons make the home less ideal an environment for testing, but it is not impossible. When doing the ADOS, you want the child to be as comfortable as possible. Often with kids with Autism, they are actually more comfortable in a more structured environment than an unstructured one (especially with a stranger in the midst of their normal environment). For people who want to use the ADOS in the home, before they arrive, examiners will need to discuss the kind of space they need (e.g., somewhere they can blow bubbles and use playdoh; somewhere without any siblings or noisy appliances or television; somewhere the child will sit at a table without necessarily expecting to eat). If this can be worked out, and the examiner feels comfortable, then a home administration is fine.

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### **Q: Can a deaf child be tested with the ADOS?**

ADOS scoring cannot be done with a deaf child. If someone wants to use the materials and the codes to experiment with an informal observation, they may be helpful in garnering qualitative information.

### **Q: What are the best ways to clean toys?**

In general, we wipe things down with bleach cleaning wipes or put them in a dishwasher set at a very hot temperature (obviously not the baby doll though). Washing is preferable to using bleach wipes when working with children who are likely to put things in their mouths.

In settings such as hospitals where there may be special concerns, a special disinfectant solution such as HB-Quat may be recommended, but this is not possible with all materials. In some cases more easily cleaned materials may be substituted. For example, the wooden blocks need to have letters on them, but could be replaced with plastic letter blocks if you can find them. The baby blankets can be any baby blankets and so can be easily replaced or washed after each session. And the soft bodied doll could be replaced with a plastic doll as long as their eyes open and shut.

It may not be possible to clean or wipe down everything (e.g., the book, the bunny). Mostly, we try to keep children from putting those things in their mouths. But we do appreciate the concern about things that kids frequently put in their mouths.

### **Q: Are there practice effects or other problems with retesting after a short time interval?**

There are data about repeated administration of the ADOS in the manual. In general, there are slight practice effects on scored responses, with repetitive behaviors, on the average, scoring slightly more abnormal on repeated administration within a few months, and social behaviors improving slightly. The ADOS has been used in several treatment studies where children have been tested two or three times within the space of a few months. There have been placebo effects, but not practice effects to date. In our center, we have found that children, particularly if their parents are present, are often taught parts of the ADOS (e.g., the birthday party) after they go home. Since the scoring of the ADOS emphasizes the child's spontaneous initiations and responses to the examiner's behavior, however, this typically has relatively little effect on their score. If you are going to repeat the ADOS during a short period of time, you may want to decide in advance to use the different toys and materials each time (e.g., use one book one time and another one the next). If you have access to more than one ADOS kit bought at different times, you may want to alternate kits on alternate visits (because of changes in toy availability, materials may vary in kits bought at different times).

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### **Q: Can the Module 4 materials be used with very high functioning adults, such as college students?**

Yes. Module 4 was designed for older teenagers and adults who are verbally fluent. The more youth-oriented toys and the make-believe play tasks do not appear in this module.

### **Q: Can the ADOS be used with older children and adults who are very low-functioning or nonverbal?**

Adults who are nonverbal can receive Module 1 of the ADOS, although some of the tasks and materials involved will not be age-appropriate. We are concerned about the appropriateness of some of the toys in the early modules for older children and adults, but devising a special kit for older children and adults who are in the lower modules is an expensive and complicated endeavor, because materials have to be safe and interesting. In many cases, the adults we work with are quite interested in the toys, and will choose them over more adult-appearing materials. It's up to the examiner to decide what he or she is most comfortable with. If the examiner is uncomfortable, the person whom he or she is working with is very likely to be uncomfortable too. A recent article by Berument and colleagues investigated modifications to an earlier version of Module 1 of the ADOS, the PL-ADOS, for nonverbal adults:

- Berument, S. K., Starr, E., Pickles, A., Tomlins, M., Papanikolaou, K., Lord, C., et al. (2005). Pre-linguistic autism diagnostic observation schedule adapted for older individuals with severe to profound mental retardation: A pilot study. *Journal of Autism and Developmental Disorders*, 35(6), 821-829.
- We also have a list of recommended materials for adults and adolescents who need a Module 1 or 2, available upon request.

### ADI-R Specific Questions:

#### **Q: Does the ADI-R diagnose Autism and other ASDs?**

Like the ADOS, the ADI-R scores do not result in a diagnosis of Autism. The scores result in a classification of Autism, which can be used to support a diagnosis. It is one tool in an overall evaluation and diagnosis. The ADI-R is useful in establishing a developmental history, as well as obtaining information about specific current behaviors. It is recommended that other methods be used to add to the results of the ADI-R, such as individual standardized testing, structured observations (such as the ADOS), rating scales, etc. The ADI-R also does not provide separate cutoffs or criteria for ASDs other than Autism, such as Asperger Syndrome and Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS). Cutoffs on the ADI-R only indicate a classification of Autism versus not Autism.

#### **Q: Who can administer the ADI-R?**

The ADI-R should be used by professionals who are very familiar with Autism and ASD and who have experience in clinical interviewing and assessment of individuals with Autism and other developmental disabilities. The authors of the ADI-R strongly recommend that you complete the clinical videotape training package available through WPS before beginning to use the instrument. The examiner's clinical skills and experience with the ADI-R are crucial to administration. WPS has specific information on requirements for use: [www.wpspublish.com](http://www.wpspublish.com).

#### **Q: What scores result from the ADI-R?**

The ADI-R results in cutoff scores on the **Diagnostic algorithms** indicating a classification of Autism based on the child's developmental history. Individuals must meet the cutoff for Autism on the Reciprocal Social Interaction domain; the Communication domain; the Restricted, Repetitive, and Stereotyped Patterns of Behavior domain; and Age of Onset to receive a classification. There is no total score on the ADI-R.

At this point, scores on the ADI-R are not interpreted as a measure of symptom severity. In other words, scores cannot be compared across long time periods or across individuals in any simple way. Within a group of individuals of the same age, Nonverbal IQ, and expressive language, a higher score would mean that the person has more symptoms and/or more intense symptoms than someone with a lower score. Research is in progress to develop severity scores for the ADI-R.

## ADOS/ADI-R FAQs

You also can purchase **Current Behavior algorithms** for the ADI-R. These algorithms may be used to assess the subject's current behavior. They should not be regarded as equivalent to diagnosis, or indicative of whether the subject continues to meet diagnostic criteria for the disorder. Criteria for diagnosis of Autism necessarily include assessments of behavior during the early years. The Current Behavior algorithms may be relevant, for example, in follow-up studies designed to assess changes brought about by intervention or changes reflecting increasing developmental maturity or changing life circumstances. In addition, the Current Behavior algorithms may be used to provide a direct comparison with the algorithm based on the ADOS, which also is restricted to current behavior.

### **Q: For what ages can the ADI-R be used?**

The ADI-R can be used to assess an individual of any age or from any setting, so long as the individual's mental age equivalent is at a developmental level of at least 2 years, 0 months. Again, the ADI-R has been used with children functioning below that level; however, the results need to be interpreted with caution, as they can result in overclassification.

**Q: In the pre-publication version of the ADI-R, the algorithm instructs you to list the "current" code for #35 (reciprocal conversation). In the new, published version of the ADI-R, the algorithm instructs you to list the "ever" code for #35. The only change with this item between versions is that when you ask this question, originally you were instructed to ask "Current" and "Most Abnormal 4-5", while the new version instructs you to ask "Current" and "Ever" for this item. Why is this?**

On the original protocol, the Conversation item was part of other "typical development" items that are mostly scored as "most abnormal 4-5" on the algorithm. However, because many children with ASD don't have enough language to score Conversation at 4 - 5, we scored the "Current" version in past editions of the ADI (in order not to lose information due to the child having insufficient language earlier on). On the other hand, using "Current" on the algorithm led to the concern that coding "Current" may not pick up on whether this behavior was ever abnormal, once the child established enough language to be able to have a conversation. So when the ADI was revised, they changed the codes to "Ever" and "Current," and changed the algorithm to code "Ever," so that this information wasn't lost.

*Note: Dr. Catherine Lord, along with the other authors of the instruments and training packages, receives royalties when people purchase ADOS or ADI-R materials.*