Pediatric Neuropsychology Rotation

Overview
The Pediatric Neuropsychology rotation provides opportunities for assessment with children, adolescents, and young adults experiencing a broad range of neurological (medical), neurodevelopmental and neuropsychiatric conditions. Psychology interns spend this six-month rotation in outpatient services provided at the University of Minnesota Medical Center, MHealth. The aims of the rotation and the Internship are to promote the refinement of interns’ Profession-Wide Competencies as health service psychologists. In addition to the rotation-specific training, interns on the pediatric neuropsychology rotation participate in Internship-wide didactics and psychotherapy through the Pediatric Psychology rotation.

Philosophy:

The Pediatric Neuropsychology rotation provides opportunities primarily for outpatient assessment and development of treatment recommendations for children and adolescents from diverse ethnic, cultural, and language backgrounds who may experience a broad range of developmental, learning, psychological, neurological and medical difficulties. The clinical orientation of the staff is developmental with emphasis on incorporating knowledge from many sources to quantify functional deficits developmentally. The rotation uses a hypothesis testing approach. That is, preliminary data are used to generate hypotheses about the child’s diagnosis or strength/deficit profile; additional testing, record review and interviewing are used to test these hypotheses. In this way, interns learn to use deductive reasoning to arrive at the most likely diagnosis, plan a testing battery to rule in or rule out differential diagnoses, generate recommendations stemming directly from evaluation results regarding areas of weakness, and use strengths to compensate these weaknesses. This approach is consistent with the scientist-practitioner model of practice and training.

Information from the evaluation is interpreted in the context of knowledge gained from neurological examinations, diagnostic imaging, neurophysiological, and other laboratory studies. Both biological factors (patient medical history, family/genetic medical history, sensory issues, etc.) and environmental factors (home, school, ethnicity/culture, language, etc.) are considered in the evaluation. Because many Pediatric Neuropsychology patients are followed over time, the evaluation also serves as a baseline for longitudinal assessment of the child's response to intervention. The Pediatric Neuropsychology Clinic emphasizes ecological validity in our approach and involves the integration of data from parents, schools, and medical facilities in assessment and follow up. This approach is often interdisciplinary and involves a range of collaborations between primary care, medical subspecialties, and allied health specialists at the University of Minnesota Masonic Children’s Hospital.
All rotation supervisors were trained in the scientist-practitioner model, and all supervisors are active in research. Our clinical practice is based on an understanding of the current scientific literature. Interns are taught to plan assessment batteries in accordance with standards of reliability and validity, adequacy of normative sampling, appropriateness for sensory impairments, and applicability to individuals of diverse backgrounds, etc. Interns are also taught to plan assessment batteries for individuals with specific diseases based on known neuropsychological profiles documented in the scientific literature. Similarly, treatment recommendations are based on evidence of efficacy and appropriateness of use with specific populations with specific attention given to regular and special educational implications.

**Recruitment:**

It is expected that interns will have completed practicum level training in child, adolescent, and some adult neuropsychological assessment prior to the internship. Admissions preference is given to candidates who:

1) Possess knowledge of child, adolescent and young adult development in neuropsychology, which is adequate to recognize abnormality in children, to understand the purposes of various tests, and to interpret test scores in terms of a child's strengths and weaknesses;

2) Have had experience with the administration, scoring and interpretation of a wide range of neuropsychological measures, including measures assessing cognitive ability, academic achievement, executive functioning, memory, fine and visual motor integration skills, and behavioral and emotional functioning;

3) Have the ability to document the observations of patients in the context of the assessment procedure and during unstructured periods of the evaluation process;

4) Have demonstrated ability to appropriately describe and integrate patient background information, test content, and test scores.

**Goals and Objectives:**

Upon entering the rotation, interns are informed of the expectations for their learning and the criteria for successfully completing the rotation. The objectives of the six-month rotation are for interns to:

1) Refine their understanding of the neuropsychological assessment process. (Note: A post-doctoral residency/fellowship is generally required for practice as a neuropsychologist.)

2) Be able to select, administer, and interpret neuropsychological measures when assessing various neurodevelopmental functions. Moreover, interns will be able to select appropriate measures for children with significant sensory, motor and/or cognitive impairments.
3) Be able to interpret objective behavioral and emotional rating scales when evaluating childhood behavioral and emotional problems encountered in the clinic setting.

4) Become comfortable with work in an academic health setting, (e.g., writing progress notes, consulting with physicians/staff, using the electronic health record, and understanding medical terminology and hospital billing and documentation practices.

5) Be familiar with common childhood behavioral and emotional disorders. Interns will be conversant with DSM-5 and ICD-10 criteria for these diagnoses.

6) Be familiar with various neurological disorders such as traumatic brain injury, seizure disorders, oncologic disease (brain tumors and hematologic cancers), neurogenetic disorders and neuropsychiatric disorders, and their evidenced-based treatment including biologically-directed therapies, psychopharmacologic and chemotherapeutic, and radiation treatment.

7) Integrate neuropsychological, medical, educational, emotional, behavioral, and social behaviors in a comprehensive written report in a timely fashion with sensitivity to underlying brain-behavior relationships. By the last half of the internship, interns should be able to produce a final report after one supervised draft.

8) Develop skills in consultation with medical, school, and community resources as to the needs of the child assessed. Moreover, interns will be able to communicate to other professionals the results of neuropsychological measures both verbally and in writing.

9) Provide recommendations and referrals for community support services both within and outside the local catchment area for problems routinely encountered in the Pediatric Neuropsychology Clinic.

10) Provide sufficient psychotherapeutic interventions to achieve intermediate-to-advanced competence in psychotherapy.

11) Understand and appropriately use hospital systems (e.g., electronic health record, pagers) appropriately.

12) Demonstrate a consistent ability to complete clinical work in a professional and timely manner. It is also expected that interns will develop excellent time management skills as this is a fast-moving practice that requires excellent writing skills as well as the ability to juggle many responsibilities.
Profession-Wide Competencies:

Clinical and training opportunities promote professional development in terms of professional behaviors, attitudes, and practices with a foundation of ethics and communication skills for effective functioning in interprofessional healthcare teams. Interns are exposed to patients and families of diverse backgrounds. They are expected to be aware of how patients’ and their own backgrounds affect understanding of and interactions with patients and to be able to communicate with and work effectively with diverse individuals.

Training is oriented toward refining interns’ knowledge and skills in the following areas to prepare for professional practice:

a. Research  
b. Ethical and legal standards  
c. Individual and cultural diversity  
d. Professional values, attitudes, and behaviors  
e. Communication and interpersonal skills  
f. Assessment  
g. Intervention  
h. Supervision  
i. Consultation and interprofessional/interdisciplinary skills

Competence Assessment:

Whereas the emphasis is on assessment, the rotation also contributes to more general competencies in preparation for entry-level practice in health service psychology. The Neuropsychology training faculty has identified the following competencies as criteria for "passing" the Neuropsychology rotation. Passing the rotation does not require interns to excel in all of these areas but does require an absence of significant deficits in any of these areas:

1) Intern-level knowledge base in child development and neuropsychology is to recognize abnormality in children, understand the purposes of certain types of tests, and understand the implications of test scores for a child's strengths and weaknesses.

2) Demonstration of an adequate learning curve in knowledge regarding child development and neuropsychology over the course of the rotation.

3) Ability to properly administer, score, and interpret the common general assessment tools and additional neuropsychological instruments used on this rotation.

4) Appropriate ability to communicate patient background information, test content, and scores.

5) Over the course of the rotation, to conceptualize cases more effectively and succinctly based upon the integration of background information and test interpretation. This ability is to be demonstrated in written reports, in supervision, and in oral
presentations. To a lesser extent, it is also to be demonstrated during feedback sessions with family.

6) Ability to execute day-to-day duties and each step of an evaluation in a professional manner. These duties include: (a) preparation for staffing (e.g., gathering and organizing records, reviewing prior test findings, etc.); (b) communication of case material to supervisors in staffings; (c) administration of tests; (d) conduct of interviews; (e) scoring of tests; (f) communication of findings in supervision; (g) documentation in a manner that meets institutional, legal, ethical, and regulatory standards; (h) completion of billing forms; (i) report writing; and (j) case management.

Case management includes professional-level comprehension and fulfillment of the roles and responsibilities required by the case. More specific case management duties include initiating and responding to communications with parents, schools, referral sources, medical colleagues, etc. "Professional" means approaching clinical work accurately, efficiently, respectfully, and in a timely manner. It also includes recognition of the implications to patients, families, supervisors, colleagues and referral sources of failure to perform any aspect of work accurately, efficiently, respectfully and promptly.

7) Ability to provide psychotherapy at an intermediate to an advanced level.

8) Ability to understand and use hospital systems (e.g., electronic medical record, pagers) appropriately.

Processes:

Overview: Upon entry into the rotation, interns participate in a formal process of orientation. Interns phase in their participation in the evaluation process by first observing other examiners. Similarly, interns first observe family feedback sessions conducted by supervisors and gradually take a more active role in this session. A similar graduated approach to case management responsibilities and preparation of reports is used.

Interns can expect to complete an average of approximately 15 to 20 hours per week of direct clinical service delivery throughout the rotation in addition to other requirements. Activities include neuropsychological evaluations of outpatients with some inpatient experience provided, case management, some therapy with neuropsychological or pediatric psychology patients, and consultation services. According to earlier time analyses, approximately 32% of the interns' time typically involves diagnostic assessment services, 33% in report preparation, 10% in case management, and 5% in provision of psychotherapy services. The remaining 20% is spent in didactic training and supervision.

Interns are responsible for maintaining the confidentiality and privacy of all patient records. All electronic versions of records are required to be password protected. Materials are shared with supervisors and entered into the MHealth electronic medical record. Any questions regarding
how to maintain confidentiality or the appropriate storage or records must be discussed with supervisors in advance of transmitting patient materials.

**Assessment Reports:** Report writing in this rotation is a key part of the experience. Interns can expect to spend 15 to 20 hours per week writing reports with this time typically decreasing by the end of the rotation as they become more efficient. Interns with more experience writing reports generally spend considerably less time writing reports. Templates are provided to assist the writing of the initial reports. Faculty is available to discuss the reports as well as to provide guidance in key aspects in the report-writing process. Report drafts are due within two weeks, and final reports are to be completed within three weeks of the final testing session. All clinical documentation must include the diagnostic information and time spent with patients.

**Psychotherapy:** Interns are expected to conduct at least two hours of psychotherapy per week during the rotation. It is prudent and highly encouraged to schedule more than that in light of cancellation and no-show rates. Interns may find therapy cases through Neuropsychology, the Psychiatry Clinic (i.e., in the Psychotherapy Seminar and group supervision of psychotherapy), or elsewhere (e.g., Pediatric Psychology with Drs. Boys and Gross, Adolescent Health or Health Psychology with Drs. Bearman, Fossum, or Robiner). During the second rotation, interns may continue with prior clients and previous supervisors. For Neuropsychology referrals, cases are mutually selected by interns and supervisors. The general goal is for them to generally meet once a week to once every two weeks. Although this therapy is expected to be problem focused and brief, involvement of family members and school personnel is frequently sought. Philosophical underpinnings of therapy in this rotation are generally of the cognitive-behavioral stance with sensitivity to neuropsychological and developmental issues as a primary concern.

Interns are to discuss their caseloads with a faculty member in Neuropsychology and with those faculty supervising their therapy patients to ensure that they are obtaining sufficient therapy experience to meet therapy objectives and to obtain assistance, as needed, in developing their caseload. Interns are responsible for writing progress notes in the chart that are co-signed by their supervisor. A treatment plan is required for each patient no later than the fifth session per UMP standards. Interns are responsible for completing treatment plans for patients and reviewing them with patients and/or parents or guardians consistent with UMP policies. All psychotherapy documentation must include the diagnostic information and time spent with patients.

**Consultation:** The Pediatric Neuropsychology service provides consultations to many of the pediatric inpatient services including Pediatric Neurology, Pediatric Neurosurgery, General Pediatrics, Pediatric Bone Marrow Transplantation, Pediatric Oncology, and Child and Adolescent Psychiatry. Referral requests range from delineating a patient’s current neurocognitive status in the context of disease process, providing a baseline neuropsychological profile prior to treatment or neurosurgical procedures to establishing the presence of somatoform disorders. Neuropsychology interns work closely with parents, the referring service, and nursing staff in gathering critical data about the patient’s functioning. Supervision by postdoctoral fellows and faculty assist in the development of an evaluation plan and appropriate feedback to the referring service and parents. In addition, interns and faculty might take part in discharge care conferences designed to assist in transitioning the patient back to home and school environments. Inpatient consultations are typically very rare compared to the outpatient caseload.
Training Activities: Neuropsychology interns are encouraged to participate in all Division of Clinical Behavioral Neurosciences and Department of Pediatrics activities beyond those specifically required for the Pediatric Neuropsychology rotation as feasible in terms of their schedule. These activities include Neurology Grand Rounds, Pediatric Grand Rounds, Collaborative Office Rounds with Developmental Behavioral Pediatrics, seminars at the Center for Neurobehavioral Development and other avenues of learning, etc.

Intern Schedule: Activities on the Pediatric Neuropsychology rotation are structured with set times and days spent in clinical activities and didactic experiences. Interns are in clinic three days per week. During these clinics, they are scheduled to see one patient each day for evaluation. Testing, interview, and feedback is completed on this single day. On rare occasions, evaluations are split over two days. Interns are expected to write reports when not in clinic, at didactic seminars, or at supervision sessions.

On days that interns are in clinic, each morning there is a supervision/staffing time 30 minutes prior to the beginning of clinic. Additional supervision is provided immediately before the family feedback.

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<thead>
<tr>
<th>Day</th>
<th>Rotation-Specific Training Activity</th>
<th>Time</th>
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<tbody>
<tr>
<td>Tuesday</td>
<td>Pediatric Neuropsychology Staffing Conference</td>
<td>2:00 p.m. to 3:00 p.m.</td>
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<tr>
<td></td>
<td>Neuropsychology Didactics</td>
<td>3:00 p.m. to 4:30 p.m.</td>
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<tr>
<td>Wednesday</td>
<td>Pediatrics Grand Rounds</td>
<td>7:30 a.m. to 8:30 a.m. (topic dependent)</td>
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Testing Seminar: The testing seminar is a once-every-few-months, 30-minute presentation during the staffing conference on Tuesdays. A range of tests are discussed by staff and students. The validity, reliability, age range, utility, and any administration/scoring concerns are presented by a faculty member, intern, or post-doctoral fellow and discussed by the Pediatric Neuropsychology Faculty and trainees. This information is used to acquaint staff and trainees with the tests available in clinic or to assist in deciding whether to purchase new tests. Some test conferences also cover broader topics such as the process of choosing tests or the uses, relative comparisons among measures, and differing information provided by the range of instrument (e.g., assessing language) available in the Pediatric Neuropsychology Clinic. Issues of appropriateness of assessment tools in the context of ethnic, cultural, sensory, disability, and diversity are also discussed.

Pediatric Neuropsychology Staffing Conference: The Pediatric Neuropsychology Staffing Conference is conducted on Tuesday afternoons (2:00 p.m. to 3:00 p.m.). Some of the week’s cases are staffed during this conference. Interns should be prepared to discuss cases at this case conference. These meetings take the form of a case presentation and group supervision. The hypothetical-deductive approach to case conceptualization is taught during this time, and interns have many opportunities to practice case presentation, case conceptualization, hypothesis generation, and test choice.
Neuropsychology Didactics: This seminar is conducted on Tuesday afternoon (3:00 p.m. to 4:30 p.m.). The goal of the seminar is to discuss functional neuropsychology and various disorders that are frequently seen in the clinic, neuroanatomy, special education law, issues of diversity, professional development, and assessment, etc. Journal articles, recent research advances, and clinical cases are presented as well as didactic training in basic neuroanatomy and neuropsychological theory. The bulk of the presentations are conducted by faculty, guests from other divisions/departments at the University, guests from the community, and post-doctoral fellows. Interns may be asked to do one presentation or part of a presentation during their rotation.

Supervision:

Together, faculty members ensure that interns are carrying an appropriate assessment and therapy caseload, monitor the interns’ timeliness of report writing in consultation with primary case supervisors, and make sure that interns rotation goals are being addressed and training needs are being met. CALs, CILs, and Supervisory Logs are reviewed by supervisors to ensure that training and clinical activities are proceeding smoothly.

There are two types of clinical case supervision. Each case is assigned to a supervisor. When possible, an attempt is made to schedule interns with different supervisors throughout each week. This distribution is meant to provide some breadth of supervisory contact. Interns should seek out supervision on cases with their assigned supervisor prior to the day of the case. Case supervision may also be provided each morning that interns are in clinic during the 30 minutes prior to the beginning of clinic. Interns are expected to have reviewed available information from the file or electronic medical record and previous testing of the child prior to supervision. Upon completion of the assessment, interns and the supervisor meet for immediate supervision to formulate the plan for parent feedback and recommendations. This usually requires 20 to 30 minutes of individual supervision. The second form of clinical case supervision is group supervision which takes place in case conference on Tuesday afternoon (2:00 p.m. to 3:00 p.m.). Weekly clinical case supervision hours include up to three individual supervision hours conducted during clinic, and one hour of group supervision. Additional supervision may be provided either as desired or as needed by interns.

Therapy supervision may rarely be done by Pediatric Neuropsychology faculty. Cases are generally supervised by Pediatric Psychology faculty. Additional supervision is available with Psychiatry or Health Psychology supervisors for psychotherapy and consultation patients.

Observed Activities:

With the APA Standards of Accreditation, interns are required to be observed in supervision (case consultation) and in consultation/interprofessional/interdisciplinary interactions. The plan for these observations in the Pediatric Neuropsychology rotation is below. Interns are also observed in other activities that are part of their preparation for the Profession-Wide Competencies such that evaluations are based on faculty-observed performance.
Observed Supervision/Case Consultation: Interns on the Pediatric Neuropsychology rotation have the opportunity to work with and provide supervision/case consultation to graduate level practicum students. During the rotation, interns are assigned a specific case for which they provide case consultation to a practicum student for assessment. This involves consulting with (i.e., paralleling supervising but without the full responsibilities of a supervisor) the practicum student in staffing the case, developing case conceptualization, testing, scoring, and report writing. This quasi-supervisory experience is observed by one of the faculty rotation supervisors who gives feedback to the intern.

Observed Consultation/Interprofessional/Interdisciplinary Interactions: Pediatric Neuropsychology interns participate in interprofessional management responsibilities. Consultation with educators, pediatricians, blood/marrow transplant physicians, psychiatrists, psychologists, and neurologists is common/interdisciplinary on a regular basis as part of their case management.

Resources:

Faculty: There are six licensed pediatric neuropsychologist supervisors comprising the Pediatric Neuropsychology Unit within the Division of Clinical Behavioral Neuroscience within the Department of Pediatrics. All have their primary academic appointments in the Department of Pediatrics. Each faculty member is active in clinical activities as well as research activities. Some also carry administrative responsibilities. In addition to providing clinical case supervision to interns, each plays a specific role with regard to the internship:

<table>
<thead>
<tr>
<th>Case Supervisors</th>
<th>Roles</th>
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<tbody>
<tr>
<td>Julie Eisengart, Ph.D., L.P.</td>
<td>Primary supervisor providing weekly rotating supervision.</td>
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<tr>
<td>Northwestern University</td>
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<tr>
<td>Kelly King, Ph.D., L.P., ABPP-CN</td>
<td>Primary supervisor providing weekly rotating supervision.</td>
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<tr>
<td>University of Houston</td>
<td></td>
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<tr>
<td>Alicia Kunin-Batson, Ph.D., L.P.</td>
<td>Primary supervisor providing bi-monthly rotating supervision.</td>
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<tr>
<td>The Chicago Medical School</td>
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<tr>
<td>Elizabeth (Rene) Pierpont, Ph.D., L.P.</td>
<td>Primary supervisor providing bi-monthly rotating supervision.</td>
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<tr>
<td>University of Wisconsin – Madison</td>
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<tr>
<td>Margaret (Peg) Semrud-Clikeman, Ph.D., L.P., ABPdN</td>
<td>Primary supervisor providing weekly supervision.</td>
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<tr>
<td>University of Georgia</td>
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<tr>
<td>Richard Ziegler, Ph.D., L.P.</td>
<td>Section Head and Director of Training in Pediatric Neuropsychology. Primary supervisor providing weekly rotating supervision.</td>
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<tr>
<td>California School of Professional Psychology</td>
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The Pediatric Neuropsychology Section is one unit within the Division of Clinical Behavioral Neuroscience in the Department of Pediatrics. The other Sections in the Division include: Autism and Neurodevelopmental Disorders Clinic, Pediatric Psychology, and Developmental
Behavioral Pediatrics. Physicians and neuropsychologists work together on many shared cases, offering interns the opportunity to interact with neurologists and their residents and medical students.

Support and Technical Staff:

The Division of Clinical Behavioral Neuroscience is staffed by a senior office manager/scheduler and a part time administrative assistant who provides support for academic activities. The Pediatric Neuropsychology Clinic also employs two full-time psychometrists.

Physical Space:

Faculty, interns, and fellows are housed in a suite of offices on the 5th floor in the Riverside Professional Building. The primary Pediatric Neuropsychology Clinic is housed nearby in the outpatient Voyager Clinic: Pediatric Specialty Care adjacent to the University of Minnesota Masonic Children’s Hospital. There is a waiting area, team room, and testing rooms in addition to psychometrists’ offices/testing rooms. Most rooms are equipped with a computer for computerized attention testing and computerized scoring of tests. Our clinic is serviced by clinic personnel from the Voyager Clinic who perform check in, check out, consent procedures, paperwork, etc.

Neuropsychological evaluations are also conducted several days a week at multiple satellite locations, including clinics in Woodbury, Burnsville, and Maple Grove. Interns may be involved at the Fairview Ridges Clinic in Burnsville and the Pediatric Specialty Clinic in Woodbury during the rotation. Satellites are within 20 miles of the University, and the interns are responsible for providing their own transportation to/from these clinics. Interns’ services at the satellites are under the supervision of the University supervisors.

Training Populations:

The Pediatric Neuropsychology Clinic serves greater Minnesota, Wisconsin, Iowa, and North and South Dakota although most patients are from the greater Minneapolis-St. Paul metropolitan area. For some disorders and diseases, the clinic serves patients from across the county and abroad. Children with developmental, learning, emotional/behavioral, neurological, genetic, and metabolic disorders are routinely seen. Common diagnoses or presenting problems include congenital adrenal hyperplasia, developmental delay, cancer, fetal alcohol spectrum disorder, ADHD, dyslexia, other learning disability, language disorder, autism spectrum disorder, mood disorders, anxiety disorder, Fanconi anemia, somatoform disorder, conversion disorder, conduct disorder, oppositional defiant disorder, psychosis, epilepsy, brain tumor, neurofibromatosis, storage diseases, lead toxicity, late effects of prematurity, cleft palate, and many others. Children’s ethnic/cultural backgrounds are commonly African, Black/African American, Latino, Native American, Southeast Asian, and White. Children seen from the International Adoption Clinic are from a variety of Eastern European, Asian, African, and South American countries. Many referrals are considered tertiary care, in that, they may already have ongoing relationships with mental health professionals in their community.
Quality Assessment and Improvement:

The Pediatric Neuropsychology rotation utilizes the Minnesota Supervisory Inventory-Neuropsychology Version (MSI-N) form to evaluate interns and the Supervisor Evaluation Form by which interns evaluate supervisors. Evaluations of interns by supervisors and of supervisors by interns occurs at the midpoint and end of each rotation. At each evaluation point, interns evaluate the supervisors with whom they have worked during the preceding three months. These supervisors complete evaluations of the intern. Interns’ progress and their status (pass/provisional/fail) is judged in accordance with the criteria for passing as described above. Interns also are expected to complete the other aspects of the Internship’s QAI program (e.g., Clinical Assessment Log, Clinical Intervention Log, Supervisory Log, etc.) and review them with supervisors.