Clinical Neuropsychology in the Criminal Forensic Setting

This article reviews the application of clinical neuropsychology to criminal court proceedings, a complex, underserved, yet growing area of neuropsychological practice. The authors write from the perspective that the audience is primarily neurorehabilitation clinicians with limited experience in criminal matters. Discussions on the theoretical differences between clinical and forensic work, the forensic evaluation process with conceptual model, historical and current perspectives on criminal competencies and responsibility, prediction of dangerousness, and professional and ethical issues often encountered in criminal neuropsychology are provided. Key words: competency, criminal, dangerousness, forensic, sanity, traumatic brain injury.

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Clinical neuropsychologists practicing in the forensic arena have historically focused on civil litigation when head trauma is at issue. Consequently, not much has been written concerning the application of neuropsychology to criminal proceedings.\textsuperscript{1-3} This trend is shifting, however, as more neuropsychologists find themselves providing services to the criminal courts.\textsuperscript{4} Indeed, there is a higher rate of closed head injury (CHI) among criminal populations,\textsuperscript{5} and in one survey, approximately 46\%-50\% of forensic psychologists said that they used neuropsychological assessment instruments in their pretrial evaluations.\textsuperscript{6} These facts lead the authors to conclude that there is a need for clinical neuropsychological expertise in criminal proceedings.

Criminal courts, and probation and parole agencies, are becoming more aware of the unique contribution that neuropsychological
assessment can make over more general clinical mental health evaluations, particularly when issues of central nervous system (CNS) pathology arise. Neuropsychologists have the ability to contribute their understanding of neuroanatomy, neuropathology, and objective functional assessment to address the more specific questions of the court. One area to which neuropsychology has made substantial contributions in the criminal courts has been in the detection of feigned or exaggerated cognitive deficits; in the process, this contribution has helped to clarify the courts', and practitioners', understanding of how cognitive difficulties should present given particular injuries or illnesses.

When deprivation of liberty is at stake, as is typically the case in criminal proceedings, due process requires that the defendant be able to understand the process to a reasonable degree and be able to assist counsel in his or her own defense, behaviors that strongly imply cognitive capacities. With few exceptions, cognition forms the basis of most mental health criminal standards. Most commonly, questions include a defendant’s competency to participate in legal proceedings, as well as his or her competency to waive the right to an attorney, a trial (ie, plead guilty), or an appeal. Courts are even beginning to ask specific questions of evaluators regarding the effect of amnesia and the possibility of feigning memory loss or general intellectual compromise. The issue of legal sanity, or criminal responsibility, arises as attorneys, judges, and juries grapple with how much a defendant’s brain pathology contributed to the criminal behavior. Related to sanity is the issue of diminished capacity, in which the defendant’s neuropathology may not be exculpatory but may have contributed to the behavior in some manner. Courts often take such factors into account when considering sentencing options. The contribution brain pathology may have played in a crime is decidedly relevant in death penalty cases, where a judge or jury must make decisions about the defendant’s risk of future dangerousness and whether to impose the ultimate sentence.

Brain injury can take many forms. For purposes of this article, brain injury will be defined as any acquired brain change, whether traumatic, vascular, neurological disease, or encephalopathies, although the emphasis will be on the cognitive changes most often associated with CHI. The persistent cognitive difficulties often associated with CHI such as problems with sustained attention, information processing, recall of newly learned information, language, impulse control, motivation, problem solving, and judgement seem to form a common basis of concern for the criminal courts. It is obvious, for practitioners familiar with CHI, how the patient with receptive and expressive language problems secondary to left hemispheric injury could have difficulty defending himself or herself at trial and how the language problems might be related to responsibility given the right context (eg, entering a restricted area because he or she could not understand a warning sign, difficulty modulating impulses secondary to frontal-subcortical damage). In most instances, the issues are not nearly as clear and are troublesome for clinical and legal professionals alike.

For neuropsychologists to competently address such concerns in the criminal courts, they must have a reasonable degree of understanding of the legal issues involved and an appreciation of the differences between clinical and forensic practice. What follows are brief introductions to the theoretical differences between clinical and forensic work, the forensic evaluation process, historical and current perspectives on criminal competencies and responsibility, prediction of dangerousness, and professional and ethical issues often encountered in criminal forensic
neuropsychology. There are excellent texts to which clinicians can refer for further discussion of forensic practice issues beyond the scope of this article.16,20–22

THEORETICAL DIFFERENCES BETWEEN CLINICAL AND FORENSIC EVALUATIONS

There are some major differences between clinical and criminal forensic evaluations. Goals of the two specialties often differ greatly. For example, the goal of clinical evaluation is most often the alleviation of human suffering through the establishment of a coherent and efficient plan of intervention. The goal of forensic evaluation is most often to determine whether a defendant’s psychological problems meet a legal standard or to assist authorities to develop a plan of management (eg, sentencing). The different goals create different assumptions, roles, alliances, and methods.

Assumptions

In clinical practice, it is assumed that patients voluntarily seek help because they want relief from bothersome symptoms. The alliance, then, becomes one of collaboration and belief. There is often a diagnosable condition that occasions the service, whether the service is assessment or intervention. Criminal defendants, however, may not be self-referred, or even voluntary for that matter, nor do they necessarily suffer from a psychological or neuropsychological malady. The possibility of harsh punishment can create tremendous motivation to manipulate the evaluator and judicial system. Therefore, it is counterproductive to assume that defendants want help for bothersome symptoms or to trust without verification. The differences in assumptions naturally result in different roles for psychologists.

Roles

Given the different assumptions, there are different roles inherent in clinical and forensic neuropsychological practice. The clinical evaluator maintains the role of helping the patient. Rather than patient-helper, the forensic evaluator attempts to maintain a role of “seeker of truth” and judicial educator.23 It is a difficult role to maintain, but the evaluator should realize that his or her opinion may do much more harm than good and the potential consequences can be great. For example, the evaluator’s opinion in capital cases may pave the way to a death sentence for the defendant. The reluctance to be an objective, unbiased, seeker of truth will lead the ethical neuropsychologist to avoid forensic work.

Alliances

The therapeutic alliance with the patient is a hallmark of good clinical rehabilitation practice.24 Developing the relationship to foster motivation and hopefulness on behalf of the patient is crucial.25 In this light, two issues are relevant in the forensic evaluation process. First, the encounter is an evaluation, not a therapeutic endeavor. Second, the allegiance is with the truth, not with the defendant. The neutrality of forensic evaluation does not, however, obviate the need to develop rapport with the defendant or to treat him or her with dignity and respect. Rapport fosters self-disclosure and motivation to perform during neuropsychological testing. It is possible to maintain a professional and ethical relationship while maintaining the strict boundaries of the forensic evaluation process. The difference in alliance between clinical and forensic evaluations is exemplified in the potential lack of confidentiality in criminal forensic practice. Confidentiality will be addressed further under the Informed Consent section.
Methodology

These different assumptions, roles, and alliances result in a different methodology from that of clinical evaluators. Common clinical practice incorporates an interview with the patient, and perhaps an informant familiar with the patient, and neuropsychological testing to characterize the patient’s difficulties or to arrive at a diagnosis and make treatment recommendations. The entire process is designed to provide assistance to the patient, his or her caregivers, and medical managers in a timely fashion. Forensic assessment requires a much broader base of information sources than is typical of clinical practice. It can take time to locate and review past medical and educational records and interview others familiar with the defendant. The evaluator must also place more weight on objective test results than subjective complaints, self-report checklists, and behavior during clinical interviews. In essence, the evaluator must carry out the evaluation much like a detective would attempt to sleuth out the truth. The search for the truth requires that the forensic psychologist gather information from a wide variety of sources aside from the defendant.

FORENSIC EVALUATION PROCESS

The theoretical differences between clinical and forensic neuropsychology necessitate procedural differences as well. The forensic evaluation model in Fig 126 represents a synthesis of the work of other forensic evaluators in regard to insanity evaluation that the authors modified to emphasize neuropsychological assessment. The model, in its ideal, requires the forensic neuropsychologist to identify the defendant’s mental state and potential diagnoses before the offense, at the time of the offense, and at the present time. The goal is to examine continuity or discontinuity in neuropsychological status across time via consistencies or inconsistencies between times and data sources (self-report or subjective and corroborative or objective). For example, did the defendant’s purported problems with impulse control secondary to CHI begin at the time of injury or was the onset at the time of the offense? Consistency between past mental status and present mental status helps establish a context in which to place potential neuropsychological functioning at a particular point in time, such as at the time of the offense. Occasionally, circumstances surrounding a criminal forensic neuropsychological evaluation are not ideal. For example, time constraints can hinder acquisition of corroborative records. Under such circumstances, expert opinions should be qualified accordingly.

To evaluate neuropsychological status at all three points in time, the evaluator acquires information directly from the defendant as well as outside sources. Information gathered from self-report and corroborative sources is then combined to provide a clinical conclusion about the defendant’s neuropsychological status at a particular point in time. An opinion of the present condition derives from self-report, external corroborative sources (eg, family), and evaluative corroborative sources (eg, test data). Subjective information includes behavioral presentation when the defendant is aware of scrutiny from the evaluator. Objective information is obtained from psychological and neuropsychological tests, mental status examinations, medical and neurological examination, neuroimaging and radiology studies, and surreptitious observation. The evaluator must always consider intention (to perform well or to perform poorly) and effort (high to low) as factors in test performance. It is helpful to note differences in presentation between times that the defendant knows that he or she is being
Fig 1. Multiple data sources model. Lefthand column indicates period of time in question. Connecting lines represent avenues of expected consistency. Ultimate issue signifies the expert's opinion on sanity (it could also represent an opinion on retrospective competency). Courtesy of David Mrad, PhD, ABPP, U.S. Medical Center for Federal Prisoners, 2000, Springfield, Missouri.
observed and times when the defendant does not realize that he or she is being observed. There is little substitute for prolonged observation to identify feigned and exaggerated impairment, and evidence of symptom relief when the defendant does not believe that he or she is being watched is perhaps the strongest of evidence of malingering.

Although it is common for clinical evaluations to include corroborative information from family members about current mental functioning, they less commonly do so for historical events. Forensic evaluations require corroborative information about the defendant’s past to compare with the patient’s self-report. Corroborative information can come from interviews of family members, friends, and employers as well as hospital, educational, military, and criminal records. Comparison between self-report and corroborative information can reveal inconsistencies as a result of symptom exaggeration and malingering as well as poor insight and lack of awareness so common with frontal lobe injuries. A thorough record review can help identify past diagnoses and level of functioning. The evaluator must be careful of information that started out as self-report but, over the years, gradually evolved into “established medical finding.” Criminal defendants occasionally have a long history of manipulating the judicial system. These individuals often have multiple medical contacts, where each only occurs when interacting with the judicial system. When a defendant successfully feigns neuropsychological defect in the past, it is much easier to do so again. Confounding the problem is a tendency of evaluators to simply follow along with past diagnoses rather than evaluating the entirety of the defendant’s current and past presentation. Such long-term deception can be identified with a thorough evaluation, although it is sometimes onerous to tell a judge or jury that a defendant has successfully feigned mental illness for many years.

An opinion of the defendant’s condition at the time of the offense is derived from self-report plus corroborative data (police, witnesses, family, and employer) and should be consistent with present and historical conditions. One must take into account the fluctuating nature and natural course of the particular illness in question. The proposed illness should make sense with the current presentation and history. An example of inconsistency would be a defendant with a history of CHI with documented improvement and memory consolidation before the offense but a worsened condition with no memory after the offense. Such a pattern should not occur with CHI barring some comorbid process. It is also not uncommon for a defendant to say he or she cannot remember the offense, when the investigative record indicates otherwise.

After the evaluator acquires subjective and objective information addressing current functioning, pre-offense functioning, and functioning at the time of the offense, he or she can formulate an opinion on the ultimate issue. The ultimate issue is the question before the court or jury—in this instance, criminal responsibility. The presence of a mental illness or defect (in this instance neuropsychological deficit) at the time of the offense does not automatically equate with insanity. The evaluator must apply the defendant’s cognitive status at the time of the offense to the legal standard in question. To conclude that someone is insane simply because he or she had mental disease or neuropsychological deficit at the time of the offense could be termed the “forensic leap of faith.” What the defendant was thinking at the time of the offense is central to the issue of insanity, not the presence of mental defect. The defendant’s statements and actions at the time of the offense, or shortly thereafter, often reveal a great deal in regard to his or her motivation at the time. For example, a defendant’s claim that he or she owned all of the money in the bank that he or she robbed and was only trying to withdraw...
it would not be credible if the defendant was disguised, brandished a firearm, threatened staff and customers, demanded money, and sped off without these behavioral factors somehow fitting into a systematized delusion. The neuropsychological or behavioral deficit must make sense given the available evidence; there has to be a logical relationship between the two for an evaluator to make the judgment that such deficits contributed to the criminal behavior.1,21

The above model stresses the importance of logical consistency between information sources (presentation, history, and behavior) and nature of the suspected illness.13 It also highlights the importance of eliminating malingering as a contributing factor when inconsistencies arise. For example, the well-documented favorable outcomes of mild head injury31,32 suggest that malingering should be considered in the differential diagnosis if a defendant claims substantial memory or other cognitive difficulties several months after their injury. The need to assess malingering in all forensic evaluations cannot be over-stated (see “Detecting Exaggeration and Malingering in Neuropsychological Assessment” by Iverson and Binder in this issue).

No one is sure of the base rate for malingering, but one can safely assume higher rates in forensic practice.12 Increased base rates indicate an increased need for sensitivity to the condition. Several researchers have estimated the base rates of malingering brain injury in the civil forensic arena to range between 2% to even 64% (when considering atypical patterns in medicolegal contexts).33-35 Frederick and Denney36 found a malingering (including feigned amnesia, cognitive ability, psychosis, and multiple personality disorder) classification in 12.1% of 893 consecutive male criminal defendants referred for pre-trial evaluation. Given the likely substantial base rates of malingering in criminal forensic settings, it would be prudent to address malingering in any such neuropsychological evaluation. Rogers12 concluded that the “assessment of response styles continues to be an essential component of clinical assessment” and that “psychologists and other mental health professionals must employ the same degree of thoroughness in the assessment of malingering and defensiveness as they would in establishment of any diagnosis.”22 Shapiro went so far as to admonish that assessment of malingering “is critical when doing a forensic examination.”22 Given such conclusions, failure to address malingering in forensic neuropsychological evaluations could reflect an inadequate, even incompetent evaluation.

Malingering is beginning to become more important to the judiciary as well with increased awareness of neuropsychological syndromes. The authors have both received court-ordered referrals asking whether memory loss was feigned or legitimate. The US Fifth Circuit Court of Appeals recently upheld a 25-month enhancement of sentence for obstruction of justice based on the lower court’s belief that the defendant had feigned mental illness to avoid prosecution.37 The US District Court for the Western District of Missouri recently assessed the cost of multiple mental health evaluations against a defendant who admitted that he feigned mental illness in an effort to be found incompetent to stand trial.38 This increased scrutiny by the courts strongly suggests that neuropsychologists participating in criminal forensic practice must incorporate assessment of malingering in their evaluations. The following sections will cover basic legal standards for competency and insanity, standards that form the basis for many forensic neuropsychological evaluations.

**CRIMINAL COMPETENCIES**

In a broad sense, competency is the capacity to decide or perform certain functions. In
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In legal sense, it is nearly always conceptualized in terms of “knowledge,” a decidedly cognitive concept. More specifically, competency implies a person’s understanding of the issues relevant to participation in a particular legal proceeding. These issues include a sense of appreciation regarding nature of the procedure, risks, nature and likelihood of success, available options, and advantages and disadvantages of potential decisions. Ever since the middle 1700s, Western law has promulgated that it is not proper to allow a defendant with mental incompetence to plead guilty or be tried, and in the United States it has been long viewed as a violation of the 14th Amendment right to due process to try a person who is incompetent. Although defined by statute in many jurisdictions, most jurisdictions follow case law in dividing understanding into factual and rational aspects based on the standard presented in Dusky v US.

In Dusky, the US Supreme Court stated, “the test [competency] must be whether he [defendant] has sufficient present ability to consult with his attorney with a reasonable degree of rational understanding and a rational as well as factual understanding of proceedings against him.” The standard makes several points. The issue is one of current ability, as opposed to some time in the past. Also, criminal defendants must have not only a factual but a rational understanding of their legal situation. Both of these abilities are actually quite minimal. Factual understanding generally refers to such things as the defendant’s ability to repeat information, paraphrase the information, and demonstrate some ability to apply the information. Rational understanding refers to a defendant’s ability to manipulate factual information in a reasonable manner. The defendant should be able to bring to bear reasonable judgment, comprehension, and reality testing and be able to weigh to some degree the risks and benefits of various potential options before him or her. The standard also demands that a defendant only have a reasonable level of understanding as opposed to a perfect level of understanding.

It is common for mental health evaluators with limited experience to set the standard of competency too high. An example of a court addressing this issue occurred in Weiter v Settle. Although not a broadly authoritative case from a legal perspective, it is widely used to demonstrate basic aspects of competency to mental health evaluators. The case points out the common mistake of concluding that a person is not competent simply because he or she has a mental disease or defect. According to the findings in the case, a defendant must be oriented and know his or her basic charge; must understand that he or she is in court of law, which includes a basic understanding of the roles of judge, prosecutor, defense attorney, and jury; must have the wherewithal to tell the basic facts of the case to his or her lawyer “whether colored or not by mental aberration”; and have enough memory to relate his or her story. Subsequent case law substantially softened the requirement for memory of the events such that a competent defendant does not necessarily need to recall the alleged offense. The current federal statute describes incompetency as, the result of a mental disease or defect, the person is unable to understand the nature and consequences of the proceedings against him or her or assist properly in his or her defense.

Contextual nature of competency

Grisso presented a conceptual framework in regard to evaluating competency that emphasizes its contextual nature. Deciding how much competence is required depends on the abilities required for that context. He presents these five areas of analysis relevant to neuropsychologists asked to decide whether a
defendant’s cognitive deficits eliminate competency.

**Functional description of specific abilities**

The primary objective of a competency evaluation is to describe the defendant’s strengths and deficits relevant to the legal standard for procedural competency. The evaluator must know the legal standard and be able to apply his or her knowledge of the defendant’s functioning to that specific standard.

**Causal explanations for deficits in competency abilities**

The evaluation should provide information describing the cause of observed deficits in competency abilities. Neuropsychologists are equipped to communicate the neuroanatomical and neuropathological basis for deficits presented and to rule out other potential causes of performance (ignorance, situational influences, cultural influences, malingering).

**Interactive significance of deficits in competency ability**

The evaluator should attempt to place the defendant’s strengths and weaknesses into context, that is, the ecological demands required of him or her given the specific legal situation. Although the standard for competency does not change, the demands required of the defendant will vary given the complexity of the case. More is required from a defendant in a long, multiple-count bank fraud trial than a single charge of illegal reentry after deportation. Likewise, pleading guilty will require less cognitive skills than a lengthy trial. Before concluding a defendant’s competency, one must have a sense of what demands will be placed on him or her through the particular legal proceedings.

**Conclusory opinions about legal competency and incompetency**

Evaluators provide opinions regarding the defendant’s competency. It must be remembered that the trier of fact (in this instance, the judge) will make the actual legal finding regarding competence. The forensic neuropsychologist’s role is to simply provide an expert opinion for the court’s consideration. Judges will often consider other salient facts beyond that provided by the forensic neuropsychologist before making a legal ruling.

**Prescriptive remediation for deficits in competency abilities**

If the forensic neuropsychologist believes the defendant incompetent, it is his or her responsibility to provide prognostic considerations and outline remedial options and potential dispositional ideas from a clinical perspective. Here is where the neuropsychologist can educate regarding the nature of the condition, what treatment options are available, and their likely success potential. Grisso20 pointed out issues to consider: Are the deficits remediable?; if so, what is the treatment required for remediation?; how long will the remediation likely require?; what local facilities or programs are available?; and what are the restrictions inherent with these facilities? Depending on the nature of the case, courts may have the option to place defendants in community rehabilitation programs. In many instances the court has little option but to refer the defendant to state (or federal) forensic hospitals that may, or may not, have neurocognitive remediation capability. The goal of treatment is remediation of the deficits sufficient to restore competency. This level of therapeutic outcome is likely lower than that typically espoused in general clinical rehabilitation. The goal is the ability to advance successfully through legal proceedings rather than
Successful independent living and community reentry.

**Psychological test instruments for competency to stand trial**

There are a variety of tests and questionnaires available to assess knowledge and potential decision-making capacity of criminal defendants. Foremost among these is the recently published MacArthur Competency Assessment Tool-Criminal Adjudication (MacCAT-CA). The MacCAT-CA is a structured interview and takes about 1 hour to administer. The Georgia Court Competency Test (GCCT) and the Competency Assessment Instrument (CAI) are also structured interviews and take about 45 minutes to administer. The GCCT and CAI rely heavily on open-ended questions, as does the MacCAT-CA. The Competence Assessment for Standing Trial for Defendants with Mental Retardation (CAST-MR) was designed to overcome the difficulties in asking such open-ended questions of criminal defendants judged to have mental retardation by using a multiple-choice format for all but the last section of items. Each of these instruments has scoring criteria and suggested cut-offs for establishing competency or incompetency to stand trial.

Because competency is a contextual issue, the authors caution against the use of strict cut-offs and recommend using such instruments to gain information about the defendant’s level of understanding and reasoning ability. None of the available instruments includes measures of cognitive ability beyond legal knowledge and decision-making capacity. It is up to the neuropsychologist to bring together the defendant’s cognitive strengths and weaknesses as they relate to issues of competency. It is possible a defendant may perform well on any of these competency instruments and yet demonstrate such severe cognitive deficits as to bring his or her competency into serious question. There is no research demonstrating the utility of using these instruments with people who have traumatic brain injuries. In addition, none of these competency instruments have indices of subject performance validity, and all of them appear easy to fake by defendants simply claiming ignorance.

**Case example—competency to stand trial**

Mr Barns (not his real name) is a 50-year-old man referred for mental health evaluation to address his competency to stand trial for multiple counts of conspiracy to manufacture and distribute methamphetamine, and possession of weapons. He has a General Education Diploma and 1 year of college. He successfully served in the US Army in Vietnam. He successfully developed multiple businesses before becoming involved in drugs and manufacturing methamphetamine. He was arrested under a false name and inadvertently released. He then spent 18 months moving his methamphetamine laboratory around the region successfully eluding police.

After his final arrest, he supposedly fell at the county jail and was found having what appeared to be convulsions. He was transported to the local hospital. During the examination, 45 minutes after the event, he was alert but claimed he could not remember his name, his location, or his personal history. Physical and neurological examination were otherwise normal. Blood laboratory results were normal with exception of presence of methamphetamine. Computed tomography (CT) scan of the head without contrast results revealed no abnormalities. He was discharged back to the jail with the diagnosis of “CHI with concussion.” He returned to jail after 3 hours in the emergency department.

Eighteen days after the fall, Mr Barns underwent an outpatient mental health evaluation regarding his competency to stand trial. He was basically uninformative during the interview because he indicated he did not understand questions or remember what was going on around him. The evaluator considered him not competent to stand trial because he could not assist adequately with his attorney. He was considered mentally ill because his “selective amnestic difficulty” struck the evaluator as a form of conversion reaction. The evaluator then concluded, “No malingering of a mental disorder could be this bizarre in its structure or have such consistent inconsistencies.” Mr Barns was then transferred for inpatient evaluation to address his competency.
The defendant presented as an alert, but disorganized, man with halting speech. He spoke in the third person, although he referred to himself on one occasion using the first name of his past alias. On most occasions, he claimed no knowledge of his name or the date, current state, state in which he lived, or state in which he was raised. He claimed no recollection of his childhood, parents, siblings, or education. He was able to recall the word “injury,” point to his head, and say the name of the hospital at which his injury was evaluated. He, nonetheless, demonstrated good attention during face-to-face interaction.

Mr Barns claimed no comprehension for the directions of the Shipley Institute of Living Scale. He achieved an estimated IQ of 87 on the Test of Nonverbal Intelligence (TONI). He was able to recall six items on the Rey Auditory Verbal Learning Test, but he only recognized four items during the Word Recognition Test. He completed the ungrouped portion of the Dot Counting Test in 100 seconds, and the grouped portion in 70 seconds, a difference suggestive of poor cooperation. He obtained a careless profile on the nonverbal portion, and an irrelevant profile on the verbal portion, of the Validity Indicator Profile (VIP). His performance during the Abbreviated Hiscock Forced-Choice Procedure was consistent with simulated malingering, but more striking was the fact he scored progressively worse on each of the three trials. He claimed inability to complete the MMPI-2 and Structured Interview of Reported Symptoms (SIRS) because he could not understand the words used to describe the tests to him (in contrast to his accurate use of many of the same words during previous interviews). Medical and neurological assessment results were normal, including neurological examination, CT scans of the head with and without contrast, electroencephalogram, blood laboratory studies including B12, ANA, 24-hour heavy metal screen, erythrocyte sedimentation rate, toxicology, RPR, and human immunodeficiency virus screening. Urinalysis results were also normal. The neurologist concluded there was no physiological reason for Mr Barn’s presentation.

Information gained from the defendant’s ex-wife revealed that he had a history of amphetamine abuse, with one possible drug-induced episode of paranoid psychosis. There was also a questionable history of posttraumatic stress disorder from his service in Vietnam. He had no significant history of head injuries or other neurological disease. His injury was mild based on emergency department records, and his gross memory impairment for recent and remote events was simply not consistent with the nature of his minimal head injury. Psychological testing results suggested invalid performance. In addition, inconsistencies demonstrated during the 45-day inpatient evaluation suggested that he had more ability than he was letting on. Lastly, the possibility of his having a conversion disorder was rejected because of the significant secondary gain involved and the fact that the only psychological stressor deemed relevant was his arrest and he had been arrested previously for just as serious of charges without signs of conversion reaction. The opinion was proffered that Mr Barns was malingering. Mr Barns later received a third evaluation at the request of defense counsel, and this report also suggested that he was malingering. The defendant then experienced a “miraculous recovery,” pleaded guilty, and was sentenced.

This case example demonstrates the necessity of acquiring corroborative information. Records from the emergency department were necessary to define the seriousness of the defendant’s injury. Understanding the severity of the insult allowed comparison with current symptom presentation. Mr Barns claimed no recollection of his entire history, so his history was provided by his ex-wife and others who knew him in his community. Lastly, the evaluation consisted of prolonged observation and included a variety of subjective and objective measures to assess validity of his symptom presentation.

Other competencies

Competency to stand trial is only one type of criminal competency. Occasionally, courts also request evaluations addressing a defendant’s competency to plead guilty or to act as his or her own attorney. Although these cases are seemingly less complicated than participating in a trial, these issues involve waiving constitutional rights. Historically, courts have held that the standard to waive trial or counsel was, in some ways, higher than that required to stand trial. However, in 1993, the US Supreme Court held that the standard to plead guilty or waive right to counsel was the same as that required to stand trial. The High Court, in essence, made Dusky more specific by pointing out that the defendant must be able to make the decision in a “knowing and
voluntary” manner. In other words, the defendant must understand the significance and consequences of waiving trial or counsel and must not be coerced into doing so. The same basic standard applies when addressing competency to waive the right to remain silent when giving a confession. For a confession to be considered involuntary, there must be evidence of coercive police activity. Of interest, the High Court does not consider command hallucinations to override volition.

The same issues of knowing, intelligent, and volition apply when addressing a defendant’s right to waive an appeal. Competency to waive an appeal nearly always arises in death penalty cases when the defendant refuses to continue with the appeals process. Because of the nature of death penalty cases, appeals are often filed on behalf of the defendant even when the defendant does not request it or even opposes it.

The last major issue related to competency is competency to be put to death. In 1986, the US Supreme Court decided that executing a person with mental incompetence constitutes cruel and unusual punishment. The basic Dusky standard still applies when evaluating a person’s competency to be executed, but the evaluation requires inquiry into the convicted person’s understanding of the execution and of death in general. In arriving at its opinion, the Court referenced Florida’s standard that the person must have the mental capacity to understand the nature of the death penalty and why it was imposed. Justice Powell, in the concurring opinion, pointed out that a person must understand the connection between the crime and the punishment. Most other jurisdictions that allow execution have more detailed standards. An example description is presented in Reisner and Slobogin, where the test of competency is whether the prisoner lacks, as a result of “defects of his faculties, sufficient intelligence to understand the nature of the proceedings against him, what he was tried for, the purpose of his punishment, the impending fate which awaits him, a sufficient understanding to know any fact which might exist which would make his punishment unjust or unlawful, and the intelligence requisite to convey such information to his attorneys or the court.” This more detailed inquiry suggests the prisoner must have the capacity to assist in any potential appeals in addition to an understanding of his or her current legal situation (as indicated in Dusky) and an appreciation of impending death.

Competency and amnesia

Claimed amnesia for the alleged criminal activity is not unusual. There are even plausible causative factors for the memory loss in some cases. The most common is likely to be secondary to alcohol and drug use at the time of the crime. Occasionally, however, criminal defendants will experience a neurological disease severe enough to hinder recall of events around the time of the offense or experience a stroke or other neurological event after their arrest but before trial that will raise concern about their competency in general and their recollection of events alleged in particular. More often, defendants will experience the neurological trauma at the time of their arrest (e.g., gunshot wounds, head trauma from motor vehicle accidents). In these instances, it is not unreasonable to suspect some loss of memory for events directly preceding arrest, which can include the crime that occasioned the arrest. A defendant’s ability to recall events constituting the alleged offense is an important issue and one that speaks to his or her ability to establish a reasonable defense against the charges.

Historically, competency was substantially limited by such amnesia. In 1968, however, the US Court of Appeals for the District of Columbia addressed the issue in an interesting
manner. In Wilson v US, Defendant Wilson incurred a traumatic brain injury when his vehicle hit a tree while he was fleeing police. He was unconscious at the scene after having "fractured his skull and ruptured several blood vessels in his brain." He remained unconscious for 3 weeks. Subsequently, he denied recollection of his offenses (five counts of assault with a deadly weapon and robbery). There were no observable mental difficulties beyond his claimed memory loss. The appeals court concluded that memory loss, in and of itself, did not necessarily constitute incompetency to stand trial and outlined six criteria for determining the effect that amnesia has on competency: The defendant's ability to consult with, and assist, his or her attorney; the defendant's ability to testify; whether or not evidence of the crime could be extrinsically reconstructed, including possible alibis; the extent to which the government assisted the defense with this reconstruction; the overall strength of the government's case (eg, did it eliminate all alibis?); and, lastly, any other relevant facts and circumstances. The court also proposed a rule that when it is reasonable to conclude that an alibi would exist if the defendant were capable of constructing one, the judge must presume one exists. Given these factors, a court may rule a defendant competent to proceed even with legitimate amnesia. It is easy to understand why courts are concerned about claimed amnesia and the possibility of malingering, and researchers have begun to address this issue as well.

Symptom Validity Testing (SVT) has been successfully used to assess claims of amnesia for specific past events. Based on the binomial theorem, SVT uses a two-alternative, forced-choice procedure to test a specific ability. If that ability does not exist, the person's performance will likely fall within the random range, much like counting heads or tails when flipping a coin. Originally developed to assess somatosensory disturbances, the technique was adapted to evaluating memory claims.

Binder and Frederick and colleagues initially presented the procedure with a criminal defendant claiming no recollection for important aspects of his history. They developed questions regarding the defendant's history for which he claimed no memory. Questions were created in a two-alternative, forced-choice manner. His performance was below random to such a statistically significant degree, they concluded that he actually had those memories but was intentionally choosing the wrong answers to appear amnestic. Others have also written about this technique and the authors have used the procedure with success in evaluating claims of amnesia for criminal defendants. On most occasions, judges understood and accepted the statistical principles involved. Although a novel use of SVT, the procedure meets scientific admissibility factors outlined by the US Supreme Court in Daubert v Merrill Dow Pharmaceuticals by incorporating hypothesis testing, having a known error rate, and having been subjected to peer review in the publication process. Details about the procedure's application and limitations are presented by Denney and Frederick.

CRIMINAL RESPONSIBILITY: AN EVOLVING CONCEPT

The concept of addressing a person's culpability before passing judgment goes as far back as Mosaic law in the 13th century BC (Numbers 35:22), where "intent" to murder was translated "malice aforethought." Greek moral philosophy also addressed inner will, and, with the 6th century Justinian Code, ecclesiastical law influenced secular law by the introduction of mens rea, or intent. In the 1300s, British kings pardoned murderers who were suffering from "madness." In 1505, the first documented insanity
acquittal by jury occurred in Britain. In the early 1600s, the people who were insane were described by Sir Coke as “idiots, madmen, [and those who] wholly loseth memory and understanding.”16(p. 190) In 1724, Britain’s Justice Tracy described insane persons as those who are “deprived of his understanding and memory so as not to know what he is doing, no more than an infant, brute or wild beast.”16(p. 190) By 1812, that standard became an understanding between good and evil and right and wrong. By 1840, the concept of volition entered the British law with such terms as controlling disease and acting power within which cannot be resisted. Finally, in 1843 Daniel M’Naghten was found not guilty by reason of insanity for shooting the British prime minister’s personal secretary in an attempt on the prime minister’s life. There was a subsequent outcry in public and parliament that caused the standard to swing back from a volitional one to a strictly right/wrong standard. That right/wrong test for insanity then became the standard in the United States.

The reason for reciting this history lesson is to point out that the legal definition of insanity changes over time and jurisdiction. In fact, change has occurred in the insanity defense in the United States in the 20th century. What started out as the M’Naghten “right/wrong” test gradually became an irresistible impulse test70,71 and later, the Durham case opened the doors to psychiatry in the criminal courts by defining insanity as any action that is a product of mental disease or defect (i.e., the “product test”).72 Several cases over the next 20 years attempted to tighten the product test for insanity by redefining mental disease73 and by limiting what mental health professionals could say in front of a jury.74 By 1972, nearly every jurisdiction in the United States adopted the American Law Institute’s (ALI) definition, which included a two-prong test for insanity involving cognition and volition.75 Under the ALI standard, a defendant could be found insane if he or she lacked substantial capacity, as a result of mental disease or defect, to appreciate the criminality (or wrongfulness) of his or her acts or to conform his or her conduct to the requirements of the law. The standard also effectively eliminated repeated criminal acts, in and of themselves (i.e., antisocial personality disorder), as constituting mental disease.

The ALI standard was in place in 1981 when John Hinkley shot president Reagan, James Brady, and two law enforcement personnel, believing this act would endear him to a specific Hollywood actress. He was found not guilty by reason of insanity under the volitional prong of the ALI standard. There was an immediate public backlash resulting in the Insanity Defense Reform Act (IDRA), which became law in 1984. This standard is currently in place within the federal jurisdiction and sets the basis for insanity in most state jurisdictions. In essence, the pendulum swung back to a purely right/wrong test, just as it did in Britain in 1843. Title 18 USC § 17 contains the current federal definition of insanity: “...that, at the time of the commission of the acts constituting the offense, the defendant, as a result of severe mental disease or defect, was unable to appreciate the nature and quality or the wrongfulness of his acts. Mental disease or defect does not otherwise constitute a defense.”76(p. 414)

The federal statute effectively eliminated the volitional prong and required the presence of a “severe” mental disease or defect. It also placed a restriction against mental health professionals providing an opinion in front of a jury on the ultimate issue of whether the defendant was insane or not, and more broadly, whether the defendant could appreciate the wrongfulness of his or her behavior.77 Although unable to provide that opinion verbally in front of a jury, professionals are directed to provide their opinion
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The IDRA also established that once an individual is acquitted by reason of insanity, he or she is committed to the US Attorney General for secure hospitalization, and, in essence, assumed dangerous until proven otherwise. There has been subsequent case law in the 9th Circuit that defines the term “wrongfulness” to mean an appreciation of the moral wrongfulness, not just the criminality, and it will likely be some time before professionals are clear about the meaning of moral wrongfulness and how this understanding should apply throughout the country.

Changing the insanity standard back to a purely right/wrong test appears to make it a much more difficult standard to meet for defendants who are potentially insane, particularly when their “mental disease or defect” is the result of traumatic brain injury. Contrary to this appearance, the overall incidence of insanity pleas and their ultimate success rates seem to have changed little since the reform. Also contrary to public perception is the finding that insanity defenses are relatively rare, and successful insanity acquittals are even less common. National data are available for 1980 that reveal only 2,542 people were found insane in the entire United States. The incidence of brain injury-related insanity acquittals appear to be exceedingly rare. Steadman and his colleagues studied four states in regard to insanity pleas, acquittals, and diagnostic characteristics before and after the Hinkley-related reforms. They did not specifically identify brain injury as a diagnostic category, but found 69% of those people entering insanity pleas to have schizophrenia, another psychosis, or major affective disorder. Nestor and Haycock studied murderers committed in the state hospital. Twelve of the 13 insanity acquittals referred for neuropsychological evaluation where considered psychotic at the time of the crime. Melton and his colleagues reported the results of six studies that revealed 67%–97% of insanity acquittees had a significant psychosis, suggesting psychosis is usually required for successful insanity defense.

The authors are aware of no studies identifying the rates of a neuropsychological basis for insanity. Available research would suggest the condition would need to rise to the level of psychosis for success, particularly in those jurisdictions without the volitional prong in the insanity standard. Of 456 consecutive referrals for sanity evaluation at the US Medical Center during the late 1980s and early 1990s, only 17 were diagnosed with an organic mental illness, and none were considered insane. An example recently occurred at the US Medical Center where an insanity evaluation was diagnosed with dementia resulting from Alzheimer’s disease and considered insane for disorderly conduct and trespassing on US Postal Service property. The defendant had delusions that the Postal Service was stealing his mail. In this instance, psychosis caused his insanity, and Alzheimer’s dementia caused his psychosis. The authors’ anecdotal evidence suggests that much of the time, cases are not referred for evaluation because they are not prosecuted when an organic mental illness was severe enough at the time to clearly cause the criminal actions. In many other instances, these cases are dealt with at the competency to stand trial level and never reach a point where sanity is at issue. It is apparent that evaluators more often face insanity evaluations where some form of less obvious organic mental disorder is present and may have had an effect on the defendant’s past behavior. For mild cases without psychosis, it will likely be difficult to support an insanity defense with the current right/wrong standard. Such is the situation with the following case example.

Case example—sanity

Mr Goodes (not his real name) is a 33-year-old man referred for inpatient mental health evaluation to
address his competency to stand trial and his sanity. He was charged with attempted bank robbery. His medical history was significant for early childhood stuttering, for which he received therapy in elementary school. He was hit in the right side of his forehead with a brick at 8-years of age and sustained a skull fracture with no loss of consciousness (LOC). He underwent a craniectomy and, later, a cranioplasty with acrylic plate insertion. Shortly thereafter, he developed severe headaches for which he would medicate himself with drugs and alcohol. He completed 10 years of education before he was expelled for fighting. He received a fractured jaw in a fight at 18-years of age, without LOC. Three years later, he was hit in the left forehead with a baseball bat, which resulted in another skull fracture. Two years later, a head CT revealed a small area of encephalomalacia in the right frontal lobe. Four years later, an electroencephalogram was within normal limits. He was struck on the left side of his head again 3 years later without LOC. Later, his jaw was fractured again in a fight without LOC. He was struck on the head with a blunt instrument 2 years later, from which he was dazed and lightheaded for a short period with no other obvious neurological signs.

He was referred for psychiatric evaluation after his arrest for bank robbery. The psychiatrist referred him for neurological and neuropsychological assessment. The neuropsychologist diagnosed him as having dementia secondary to multiple head injuries and polysubstance abuse. The neuropsychologist said that the defendant answered questions with brief, non-elaborated responses. The defendant insisted on wearing headphones and listening to music during the neuropsychological testing, but the clinician did not believe it decreased validity of the test results. Mr Goodes had difficulty in effectively planning, organizing, and executing appropriate behaviors. The neurologist concluded the defendant had multiple cognitive impairments including decreased general fund of information, remote memory, and impaired problem-solving ability and decision-making capacity. The neurologist then concluded that Mr Goodes met the diagnostic criteria for dementia and that, as a result of the “frontal lobe deficits and other cognitive impairments, he would not have been able to appreciate the wrongfulness of his conduct” secondary to the combination of neurological trauma and psychoactive substance intoxication.

Witness accounts revealed that on the day before the robbery, Mr Goodes entered the bank and sat on the couch in the lobby “inspecting the bank.” He stared at a specific bank teller and eventually walked out without conducting business. He returned the next morning and waited in the line of the same bank teller that he had studied previously. He remained in this line even when other tellers were available. He waited until it was his turn, and he approached the teller. She was busy counting money and told him she was not yet ready. He then returned to the line to wait until another teller called him over. He then approached the soliciting teller’s window and presented a note on which was written, “this is holdup.” The bank teller jumped back saying “I’m not ready yet, go to someone else!” The teller then ran to the rear office. Mr Goodes then turned and ran out of the bank without any money. He apparently made no statements or sounds during the event. He was observed to be acting very nervous and to be holding the white piece of paper only.

Mr Goodes said he was living on the streets during the time of the robbery and was using a great deal of crack-cocaine. His memory was not very clear for that period of time, but he believed it was good enough to remember visiting the boarding house every day. However, he did not remember attempting to rob any banks. He consistently claimed he was not the individual who attempted to rob the bank.

Although there was little doubt that Mr Goodes had significant neurocognitive deficits and other frontal lobe, impulse-related difficulties, the primary author (RLD) did not agree with the diagnosis of dementia. All evaluators agreed that the defendant had a mental defect that would meet the legal standard for insanity. In addition to having the mental defect, the defendant was apparently abusing cocaine rather severely at the time. Cocaine is considered to worsen effects of brain pathology because it decreases impulse control, memory consolidation, and seizure threshold. Although the intentional intoxication does not obviate criminal responsibility, its potentiating effects to brain pathology are less well defined. Important information came from the actual behavior of the perpetrator because this shed light on his motivation and understanding of the situation at the time and, hence, his appreciation of the “nature and quality or the wrongfulness” of his behavior (assuming that he was the perpetrator).

Mr Goodes entered the bank on the day before the attempted robbery and was “sitting on a couch in the bank lobby inspecting the bank” and focusing his attention on a specific teller. He then walked out of the bank without conducting business. On the next day, he waited in line of this same teller. He was noticed to be holding a white piece of paper and “acting extremely nervous.” This nervousness is in contrast to his lack of nervousness during the day previous. He clearly wanted to interact with the specific teller because he waited in her line even when others were available. He even returned to the line when she said she was not ready yet. When summoned to another teller, he approached and presented the note. He continued to stand, saying nothing. When she reacted, he “turned and ran out of the bank.”
His nervousness was the only unusual behavior noted. He patiently waited his turn and had the self-control to return to the line when told to wait. He only changed his plan when called over by another teller, and he presented the note and waited calmly. He ran out of the bank after the teller became upset. It was logical for him to conclude his plan was failing at that time. It makes little sense to believe he would have previewed the bank and acted the way he did unless he knew the meaning of the words on his note. His behavior revealed preplanning, ability to shift strategy in the middle of the plan, and an appropriate response to failure. His behavior within the situation strongly suggested that he knew what he was doing and that he appreciated the wrongfulness of robbing the bank. Lastly, he indicated his understanding during the evaluation that robbing banks was wrong and that he knew from experience that a robber would be arrested if caught. He demonstrated no psychotic beliefs.

It was concluded that, if Mr Goodes was the perpetrator, cocaine intoxication in conjunction with his mental defect would have influenced his behavior to some degree, but not to the point that he lost his appreciation for the nature, quality, or wrongfulness of the act. The issue of intoxication and neurocognitive deficits decreasing his appreciation of the act is an issue best addressed with the doctrine of diminished capacity or diminished responsibility, rather than insanity.

**Diminished capacity and responsibility**

Every crime contains conscious intent (*mens rea*) and physical conduct (*actus reus*). Diminished capacity refers to a decreased level of culpability as a result of lesser intent.86 In this regard, first-degree murder, second-degree murder, and manslaughter differ in their level of intent. Without invoking the insanity defense, defendants occasionally bring mental state in to play by claiming a decreased level of intent as a result of such factors as alcohol or drug intoxication, medication use, and neurological conditions.16 An extreme example is the automatism defense where defendants claim no conscious awareness of their acts, such as crimes committed while sleep walking, during a seizure, or while unaware secondary to head injury or other encephalopathic conditions. Although courts have generally allowed testimony to this issue, they have limited its use in situations where the defendant has experienced the disability previously and should have taken precautions to prevent a potential criminal event. An example would be a man with a known history of aggression secondary to complex-partial seizure disorder who refuses prophylactic treatment to help avoid seizures (and thereby aggression and assault).

When considering diminished capacity, one must realize there are both general and specific intent crimes. Felon in Possession of a Weapon is an example of a general intent crime. By definition, possessing the weapon carries with it the prerequisite intent as long as the defendant understood, or should have understood, that it was illegal for him or her to possess a weapon. Bank robbery requires specific intent, that is, resolve for a particular act to occur. Intent must be differentiated from motive. Motive prompts an act; whereas, intent "refers only to the state of mind with which the act is done."87(p. 810) In the case of Mr Goodes, neurocognitive deficit and cocaine intoxication did not eliminate or decrease his level of intent, because it was still to acquire money illegally from the bank.

A related, and often confused term, is diminished responsibility. This term actually refers to mitigating circumstances of the crime that warrant a lesser punishment. Such issues are generally brought before the court during sentencing. Diminished responsibility is particularly relevant in jurisdictions that no longer have the volitional prong in their insanity standard. Individuals with frontal lobe damage often have impulse control problems that potentially effect their ability to refrain from performing certain criminal acts. Deficits in cognitive, emotional, and behavioral controls secondary to brain injury are relevant to a defense against many criminal charges, either at trial or sentencing.

Mr Goodes could potentially argue diminished responsibility at the time of sentencing.
for the judge to entertain a lesser penalty. In this regard, the additive effect of cocaine on his cognitive processes could have lessened his level of appreciation for the long-term dire consequences of such an act. There is no evidence in this particular case, either way, to conclude it affected his appreciation of the consequences to any significant degree. There is a possibility it lessened his ability to refrain from the criminal act because the addictive aspects of crack-cocaine overcame his already weakened restraint to such a degree that he simply could not help himself even though he knew the nature, quality, and wrongfulness of the act. The behavior of Mr Goodes during the robbery, however, revealed restraint in that he was able to wait in line for the teller and even go back to the line when requested to do so. In addition, it must be assumed he was intoxicated on the day before the robbery as well, and he demonstrated adequate ability to control himself on that occasion. Whether it could have helped the case of Mr Goodes, a diminished responsibility argument allows the judge to take into consideration unique variables, such as traumatic brain injury and cocaine intoxication, before sentencing the defendant.

DANGEROUSNESS

Risk of dangerousness is relevant to the study of brain injury and neuropsychologists occasionally find themselves in a position where they need to assess a traumatically brain injured person’s potential risk of dangerousness to others. In the criminal forensic setting, this event could occur in relation to a defendant considered not competent to stand trial and unrestorable. In the federal jurisdiction, the presiding court must address the defendant’s potential dangerousness to others and significant property of others on release because the charges can be dismissed when a defendant found to be mentally defective is considered unlikely to become competent in the foreseeable future. Defendants who are unrestorably incompetent in the federal jurisdiction can be held in a secure hospital indefinitely if they are considered dangerous because of mental defect. Nearly the same issue arises after a defendant is found insane and hospitalized in a secure facility. The issue can come up again when a sentenced inmate who is potentially dangerous because of mental disease or defect reaches the end of his or her sentence, because federal statute allows potential extended commitment. In each of these scenarios, the Federal Bureau of Prisons under authority of the US Attorney General has the mandate and challenge to find suitable state placement—a placement that will further ensure public safety. Most states have similar statutory procedures. Consequently, it is common for mental health professionals to provide expert opinions on risk of dangerousness for the deciding court on each of these occasions.

Assessment of risk poses certain ethical dilemmas in that it requires a prediction of future dangerousness, because it balances the liberty interests of the individual against the safety needs of the community. Research suggests that mental health professionals can predict violence at a rate significantly better than chance when they include relevant factors in the decision analysis. Factors known to increase risk of dangerousness

Research devoted to the assessment of risk, aside from neuropsychological factors, has relied primarily on demographic variables. The most well known of these studies is by Swanson and colleagues, who found that being male, young, of lower socioeconomic status, abusing drugs or alcohol, having a major mental disorder, and suffering a major mental disorder in combination with substance abuse or dependence are demographic
factors that increase the risk of violence in the community. Meta-analysis suggests that the strongest predictor of violence is a history of violence. Neurocognitive contributions to risk have been studied less thoroughly. Research with childhood neuropathology implies that early cerebral deficits can predispose future dangerousness, particularly when combined with environmental factors, such as an abusive family. It is readily apparent that neuropsychological factors can play a relevant role in the production of violence.

Neuropathology and the potential for violence

It is well known that large portions of the brain are involved not in the activation of behavior but in the inhibition of behavior. Damage to the prefrontal cortex and temporal poles or the frontal-subcortical system in white matter ischemia or diffuse axonal shearing can cause a behavioral disinhibition syndrome, often termed “pseudopsychopathic,” that can surface as a combination of jocularity, impulsivity, behavioral dyscontrol, and sexual disinhibition.

Temporal regions via electroencephalogram and structural abnormalities imaged on head CT have been implicated in brief violent behaviors. Other research has implicated focal frontal lesions and seizure disorders in violence. Generalization of such findings, however, is fraught with difficulties such as definition of target behaviors and participant demographics, but most notably by the complexity of interaction between brain centers in which a lesion in one area (eg, hypothalamus) can cause aggression in the context of other lesioned areas (eg, amygdala). Lastly, neurotransmitters have also been implicated in aggression. GABA and serotonin seem to have inhibitory effects on aggression, whereas catecholamines produce excitatory effects. There is still much to learn regarding the regulation of aggression and overall dangerousness in head injury.

PROFESSIONAL AND ETHICAL ISSUES

Mental health professionals engaged in forensic evaluation must maintain their roles as unbiased evaluators and educators. It must be remembered that mental health experts provide an opinion regarding the issue at hand, and that the trier of fact (judge or jury) makes the final conclusion. The evaluator must ardently maintain a level of independence before, and during, an evaluation. After the evaluation and report, the evaluator can then become an advocate of his or her opinion and an educator for the trier of fact but must still refrain from becoming an advocate for, or against, the defendant.

Consistent with American Psychological Association’s ethical guidelines and the Forensic Specialty Guidelines, neuropsychologists involved with forensic activity in a criminal setting should have sufficient competence to practice. Forensic psychology, like neuropsychology, requires a specialized knowledge base and expertise. The neuropsychologist practicing in the criminal arena not only needs appropriate training in neuropsychology, but also in criminal forensic psychology. Important to criminal forensic practice is providing appropriate informed consent in route to protecting the defendant’s Fifth Amendment rights.

Informed consent

A major aspect of informed consent includes a correct understanding of confidentiality in the criminal setting. Some jurisdictions provide confidentiality between the evaluator and defendant under the “work product rule” as set out by case law. Other jurisdictions do not provide for mental health evaluation confidentiality; in other words, the fact of the evaluation, and the evaluator's
opinion, is discoverable even if there was no report written and the requesting attorney does not wish testimony. When providing evaluations as a result of a direct court referral or court order, confidentiality does not exist. It is imperative for the evaluator to understand the rule in use within that case jurisdiction. The evaluator must describe his or her understanding of the use of the information to the defendant. A difficulty arises when a clinician evaluates competency to stand trial, but his or her testimony is requested for issues of rebutting an insanity defense, or worse, to provide an opinion regarding potential aggravating issues before sentencing. Such an occurrence is surprisingly common in death penalty cases and has been the issue of US Supreme Court rulings (eg, Estelle v Smith). The Forensic Guidelines address the issue directly by stating it is not appropriate to provide such testimony when the limits of confidentiality were not addressed at the onset of the evaluation. Pointing out that doing so would be an ethical violation may, or may not, prove effective in relieving the evaluator of this onerous task. The safest procedure is to explain to the evaluee that anything said or done, and any information obtained during the evaluation, is not private and may be used at any point in the criminal judicial process. It is noteworthy to point out that Federal Criminal Rule 12.2(c) ostensibly protects the defendant from incriminating himself or herself in that it does not allow the government to use that information against the defendant for criminal prosecution. The rule does not eliminate the possibility of information from the mental health expert being used against the defendant at the time of sentencing to enhance the sentence or to provide information to justify a potential death sentence. This possibility must be made known to every evaluee in capital cases.

Mental health evaluators must make every effort to ensure a potentially incompetent defendant does not unwittingly incriminate himself or herself as a result of cognitive deficit. In this regard, evaluators should not disclose defendant statements about the alleged crime that potentially incriminate the defendant. It is difficult sometimes to describe the patient’s beliefs about the crime when those beliefs not only reveal the defendant to have significant mental illness (eg, psychosis), but they also significantly incriminate him or her. Poor judgment as a result of head trauma may certainly contribute to the defendant’s inability to refrain from incriminating himself or herself. Under such circumstances, the evaluator must attempt to protect the defendant’s Constitutional rights by not including such defendant statements in the report.

Maintaining role boundaries

Lastly, forensic evaluators must maintain strict role boundaries. It is impossible for a treating clinician to provide an independent, unbiased, evaluation. It is common for treating clinicians to be requested to testify as experts about the nature of the defendant’s cognitive deficits and their effect on the legal case. As mentioned previously, doing so blurs the professional boundaries between the unbiased forensic evaluator and the therapeutically aligned provider of services. There may be no way around testifying about a defendant with mental impairment as a treating clinician, but the best thing to do is request that an independent forensic evaluation be completed and then limit the testimony given to issues related to diagnosis and treatment. Relatedly, it is not appropriate to provide opinions on issues the evaluator has not evaluated. The most common occurrence is where attorneys, or the court, request a person who has evaluated competency to stand trial to also give an opinion regarding legal sanity or risk of dangerousness on release. Both of these questions often require an analysis of data different than that of the competency
determination. To address sanity after only evaluating competency, without reviewing additional information, would constitute a significant “forensic leap of faith”—as well as a potential ethical violation. Exceptions include providing general diagnostic information that can affect the trier of fact’s determination of sanity, the opinion that the defendant has never suffered from a mental illness, for example. Whenever the evaluator provides opinions about issues not directly assessed, he or she steps out on a limb. Such actions should only be performed after serious contemplation and, preferably, consultation with colleagues. Maintaining strict role boundaries always protects the rights of the defendant and the evaluator.

The criminal forensic neuropsychologist

Criminal forensic neuropsychology is a hybrid of at least two practice specialties (neuropsychology and forensic psychology) and one subspecialty (criminal forensic psychology). It has become increasingly less difficult to find neuropsychologists familiar with the intricacies of civil forensic practice. However, it is still difficult to find neuropsychologists with the requisite training in criminal practice. As in any other area of professional psychology, the competent criminal forensic neuropsychologist will have had requisite training and experience in clinical neuropsychological assessment in the area pertinent to the particular case (eg, traumatic brain injury, cerebrovascular accident, dementia) and in the application of psychology to the pertinent area of criminal law. Knowledge of malingering head trauma sequelae and experience in its identification is a necessary aspect of work in the criminal forensic arena. A knowledge of the pertinent criminal statute(s) is a necessary, but often not sufficient, condition of such practice. Although not required, a familiarity with pertinent jurisdictional case law and the relevant literature is helpful. The goal is to provide the trier of fact with well-informed opinions. Neuropsychologists without this training are not in a position to provide such assistance. In general, the authors recommend that someone practicing in the area of criminal forensic neuropsychology meet the eligibility requirements for board certification in the areas of neuropsychology and forensic psychology (with an emphasis in criminal work).

Neuropsychologists who do not have a forensic background should familiarize themselves with American Board of Forensic Psychology qualifications and seek supervision accordingly. This approach will help protect the defendant and society by providing the trier of fact with a quality of information that will likely not exist if professionals overstep the boundaries of their professional competencies.

DIRECTIONS FOR FUTURE RESEARCH

This highly specialized area of criminal forensic neuropsychology is ripe for research, and the possibilities seem endless. Base rates of malingered neuropsychological deficit (feigning and exaggeration) in criminal forensic settings deserve attention, so that correct classification rates of the instruments used to detect it can be locally determined. Covariance of malingered cognitive deficit with malingered psychiatric illness remains an area of study. The depth and duration of injury, using markers such as length of posttraumatic amnesia and initial Glasgow Coma Scale score, Rancho Los Amigos Scale, and Functional Independence Measure scores could be compared against competency outcome as measured by the MacCAT-CA and court decisions. Application of competency assessment instruments to persons with brain injury deserves attention. Inter-rater agreement among neuropsychologists regarding
The presence of cognitive sequelae after traumatic brain injury and how these may affect criminal responsibility and competency would provide pragmatic information for criminal courts concerning the accuracy of the work practitioners do for them. Restoration to competency issues relevant to brain injury also merit inquiry. There is much to do to increase practitioners’ ability to assist defendants and society via the criminal courts in this interesting and complex area of clinical practice.

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