Published in final edited form as:

Assessment. 2016 April ; 23(2): 232–239. doi:10.1177/1073191115599053.

Enhancing Medical Decision-Making Evaluations: Introduction of Normative Data for the Capacity to Consent to Treatment Instrument (CCTI)

Adam Gerstenecker[1], **Lindsay Niccolai**[2], **Daniel Marson**[1], and **Kristen L. Triebel**[1]

[1] Department of Neurology, University of Alabama at Birmingham, USA

[2] Department of Psychology, University of Alabama at Birmingham, USA

Abstract

A number of measures have been developed to assess medical decision-making (MDC) in adults. However, their clinical utility is limited by a lack of available normative data. In the current study, we introduce age-independent and age-adjusted normative data for a measure of MDC: the Capacity to Consent to Treatment Instrument (CCTI). The sample consisted of 308 cognitively normal, community-dwelling adults ranging in age from 19-86. For age-adjusted norms, individual raw scores were first converted to age-corrected scaled scores based on position within a cumulative frequency distribution and then grouped according to empirically supported age ranges. For age-independent norms, the same method was utilized but without age-corrections being applied or participants being grouped into age ranges. This study has the potential to enhance MDC evaluations by allowing clinicians to compare a patient's performance on the CCTI to that of adults regardless of age as well as to same age peers.

Keywords

capacity; medical decision-making; CCTI; normative study; psychometric

Introduction

Medical decision-making capacity (MDC) is a higher-order functional skill that describes a person's ability to make informed, knowledgeable, and sound decisions about medical treatment. As such, MDC is a fundamental aspect of personal autonomy and self-determination and has important ethical and legal implications (Grisso, 2003; Tepper & Elwork, 1984). Despite the many implications associated with MDC, judgments made by treating physicians have traditionally been the most common method of determining the ability of a patient to make informed medical decisions (Moye et al., 2006). However, judgments made by physicians about the MDC of patients with cognitive impairment are

Corresponding Author, Kristen L. Triebel, Assistant Professor, Department of Neurology, University of Alabama at Birmingham, Sparks Center 650, Birmingham, AL 35294, ktriebel@uab.edu, phone: (205) 934-2334, fax: (205) 975-3094.

Adam Gerstenecker[1] conducted all statistical analyses

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

often unreliable (Marson et al., 1997) but can, nevertheless, be significantly improved through the use of systematic methods (Marson et al., 2000).

Although standardized measures of MDC can help clinicians in making determinations about the ability of a patient to make sound medical decisions, MDC is not an inherent skill of a patient but an external attribution by the assessing professional. For instance, determinations about the ability of a patient to made sound medical decisions has been shown to be dependent on the values of the assessing professional and his/her conceptualization of MDC (Hermann, Trachsel, & Biller-Andorno, 2015). In addition, as noted by Trachsel, Hermann, and Biller-Andorno (2014), factors such as cognitive fluctuation pose a challenge for MDC assessments, so MDC should always be viewed as being both decision- and time-specific. Thus, standardized tools designed to assess MDC are useful but cannot be used in isolation from other tools (e.g., cognitive assessment, knowledge of patient's medical condition) available to a clinician.

A commonly used model of MDC (Grisso & Applebaum, 1998), outlines four distinct consent abilities: *understanding* the disease and treatment options, *reasoning* about choices, *appreciating* the risks/benefits of a choice and then applying the information to one's own situation, and *expressing a choice* (T Grisso & Appelbaum, 1998). A fifth consent ability (i.e., making a “reasonable” treatment choice) is generally not used clinically due to potential arbitrariness in determining what is “reasonable” (Tepper & Elwork, 1984). Using this conceptual framework, standardized assessment instruments have been developed in an attempt to improve clinical accuracy and consistency in capacity evaluatios (Dunn, Nowrangi, Palmer, Jeste, & Saks, 2006). These instruments include the MacArthur Competency Assessment Tool for Treatment Decisions (Grisso, Appelbaum, & Hill-Fotouhi, 1997), the Hopemont Capacity Assessment Instrument (Edelstein, 1999), and the Capacity to Consent to Treatment Instrument (CCTI; Marson, Ingram, Cody, & Harrell, 1995). These measures provide objective information concerning an individual's MDC that can inform and guide clinical decision-making. Such instruments, however, cannot fully account for all of the factors that inform a capacity judgment. As such, MDC measures are intended to support but not replace clinical judgment of capacity.

The CCTI approximates a real life medical treatment decision by requiring the person to elect and explain a treatment decision in a verbal dialogue format. Strengths of the CCTI include its relative brevity (i.e., can be administered in 20 minutes), ease of administration, ability to assess multiple aspects of medical decision-making capacity that are based on legal analysis of competence, and potential for widespread use. The CCTI has been utilized to evaluate MDC in numerous studies, and the performance of cognitively normal adults has been shown to be significantly better on the CCTI than that of samples of different disease groups: mild cognitive impairment (Okonkwo et al., 2007), Alzheimer's disease (Marson et al., 1995), traumatic brain injury (Marson et al., 2005), Parkinson's disease (Dymek, Atchison, Harrell, & Marson, 2001; Martin et al., 2008), epilepsy (Bambara et al., 2007), and brain cancer (Triebel, Martin, Nabors, & Marson, 2009). More specifically, studies have shown that some standards of consent capacity (i.e., *expressing choice* and making the *reasonable choice*) are relatively preserved in persons with mild/moderate Alzheimer's disease, whereas other standards (i.e., *appreciation*, *reasoning*, and *understanding*) show

significant impairment (Marson et al., 1995; Okonkwo et al., 2007). A similar but less severe pattern of impairment is seen in MCI (Okonkwo et al., 2007). MDC also shows significant longitudinal decline over time in mild AD dementia (Huthwaite et al., 2006) and in MCI (O. Okonkwo et al., 2008).

Although measures have been developed that can be used to evaluate a patient's MDC, to our knowledge normative data is not available for these measures, thereby, limiting their clinical utility. As such, the purpose of the current study was to establish normative data for the CCTI. It should be noted that it has yet to be empirically shown that normative data will improve MDC assessments; thus, we state this as a hypothesis and not a fact. Regardless, this study has the potential to enhance MDC evaluations by allowing clinicians to compare a patient's performance on the CCTI to that of a large sample of adults regardless of age. In addition, this study has potential to provide clinicians additional data related to a patient's MDC in relation to same age peers.

Methods

Participants

Participant data was drawn from multiple consent capacity studies conducted at the University of Alabama at Birmingham (UAB) from July 2001 to the current date. These studies have been described previously (Gerstenecker et al., 2014; Okonkwo et al., 2007; Martin et al., 2008; Triebel et al., 2009; Triebel et al., 2012). Of note, although the studies listed above describe the research projects from which the current sample was drawn, recruitment for a number of these studies remains ongoing. Specifically, the previously described studies listed above contained a total of 248 healthy adults. Thus, an additional 60 healthy adults were recruited for the aforementioned active studies and included in the current sample.

In total, 308 community-dwelling, cognitively normal, independently functioning adults between the ages of 19 and 86 were included in this study. All study participants were evaluated by the various studies' diagnostic consensus conference teams, which consisted of neurologists, neuropsychologists, and nursing staffs. To be considered for inclusion as a "healthy adult", participants were required to meet the following criteria: 1) absence of impairment on measures of neurocognitive function, 2) absence of diseases or conditions that could potentially affect cognition, including psychiatric disorder (except mild depression), substance abuse, cerebrovascular disease, or other neurologic diseases (based on record review and self-report); 3) absence of findings on physical examination suggestive of problems with cognition; and 4) absence of the use of medications known to affect cognition. Thus, participants are believed to represent a sample comparative to adults living independently in the community.

Measure

The CCTI is a conceptually-based, reliable, and valid instrument designed to assess MDC in adults. The CCTI presents two specialized clinical vignettes (i.e., Vignette A and Vignette B) that evaluate a person's MDC under five core consent capacities or standards (S): S1

Expressing Choice, S2 Making Choice, S3 Appreciation, S4 Reasoning, and S5 Understanding (see Marson, Ingram, Cody, & Harrell, 1995). To assess these consent capacities, associated risks and benefits and treatment alternatives are presented in narrative form for both vignettes. In one vignette (i.e., Vignette A), a hypothetical medical problem and symptoms (i.e., brain tumor) are presented and decisions regarding medical treatment are queried. In the other vignette (i.e., Vignette B) a second hypothetical medical problem and symptoms (i.e., cardiovascular disease) and two treatment alternatives with associated risks and benefits are presented. For both vignettes, participants answer standardized questions designed to test the five core consent standards. CCTI Making Choice is only available for Vignette A. Vignette A and Vignette B Totals are derived from the sum of appropriate subscales. CCTI Total is derived from the sum of Vignette A and Vignette B Totals. Higher scores indicate better performance.

Of note, only CCTI Vignette B was administered to patients included in brain cancer studies conducted at UAB. Thus, for comparison purposes, the group composed of healthy adults was also only administered CCTI Vignette B.

Procedures

CCTI vignettes were presented in both oral and written formats to all participants. After presentation of the vignette, the written information was removed, and participants responded to questions about the core CCTI standards. CCTI administration and scoring were performed by trained research assistants according to detailed and well-operationalized criteria (Marson et al., 1995). Each participant's responses to CCTI questions were audio-taped and subsequently transcribed to ensure a high level of accuracy.

Statistical Analysis

Overlapping age-range intervals were used in the tradition of Pauker (1988) to maximize the reliability of this normative study. Because our sample included more adults over the age of 50 than below the age of 50, age ranges at 5-year midpoint intervals were 20-years for ages 19-50. However, age ranges at 5-year midpoint intervals were 10-years for ages 50-86—consistent with previous normative studies in older adults (Duff et al., 2003; Ivnik et al., 1992a, 1992b, 1992c). This method caused a 10-year midpoint interval to be present between the 35-55 age range and the 50-60 age range. These intervals were supported empirically (see Results section). In contrast, when education was grouped according to methodology described by Malec and colleagues (1992) (i.e., ≤11 years, 12 years, 13-15 years, and ≥16 years), empirical evidence did not yield support for adjustments to be based on education (see Results Section).

Consistent with methodology described previously (Duff et al., 2003; Ivnik et al., 1992a, 1992b, 1992c), raw scores on CCTI variables of interest were placed into a cumulative frequency distribution and then assigned percentile ranks based on their place within that distribution. Next, percentile ranks were converted to scaled scores based on percentile ranges outlined by Ivnik et al. (1992b). These conversions can be found in Tables 3-12. Given the truncated range of scores for CCTI Expressing Choice (i.e., 0-4), CCTI Making

Choice (i.e., 0-1), and CCTI Appreciation (i.e., 0-8), normative corrections were not established for these standards.

Results

Demographics for the entire CCTI sample as well as each midpoint age range can be found in Table 1.

Results of a MANOVA demonstrated significant differences across the age ranges for 7 of the 9 CCTI variables of interest (MANOVA Wilk's Lambda: $F[54,2478]=4.2$, $p<.001$). Of the CCTI variables of interest, only Vignette A Reasoning and Understanding were not significantly different across the age ranges at the .05 level. In addition, when expressed as a continuous variable, age was significantly correlated with performance on the same 7 of 9 CCTI variables of interest, even after partialling out the effects of education.

Statistically significant differences for education were not observed for any of the 9 CCTI variables of interest (MANOVA Wilk's Lambda: $F[18,640]=0.8$, $p=.677$). In addition, when expressed as a continuous variable, education was only significantly associated with 2 of the 9 CCTI variables of interest (i.e., Vignette B Understanding and Understanding Total) at the .05 level.

When entered into a regression model, education accounted for less than 10% of shared variance of scores on all CCTI variables of interest and less than 5% of shared variance of scores on 7 of 9 CCTI variables of interest. According to Malec, Ivnik, & Smith (1993), making normative adjustments for demographic variables that account for less than 10% of shared variance is not clinically useful. Thus, given these three findings (i.e., MANOVA, correlation, shared variance), normative corrections were not made for education.

CCTI scores for all variables of interest can be found in Table 2. Scores were provided for the entire sample as well as each midpoint age range.

Tables 3-12 contain raw score conversions to age-corrected scaled scores for all midpoint age ranges. Age-corrected scaled scores have a mean of 10 and *SD* of 3. Clinicians should consider the age of the person being assessed in relation to the closest midpoint when choosing which age group to reference for normative comparisons. When doing so, clinicians should consider the mean age within that group, as this may not fully correspond to the midpoint age range. For example, the actual group mean for midpoint age range 35 is 33.7.

Table 13 contains normative data using the entire sample.

Discussion

MDC is a higher-order functional skill that describes a person's ability to make informed, knowledgeable, and sound decisions about medical treatment. Measures have been developed to evaluate a patient's MDC; however, to our knowledge, the current study is the first to establish normative data for such a measure. For the present study, both age-

corrected and age-independent standard, vignette, and Total scaled scores for a sample of community dwelling, cognitively normal, independently functioning adults were introduced. Utilizing previously established methodology (Duff et al., 2003), we demonstrated the need for normative age-corrections on the CCTI through statistical analyses. Using the same methodology, a need for normative education-corrections on the CCTI was not found. In the tradition of methodology outlined by Pauker (1988), 10 overlapping midpoint age groups were established before percentile and scaled score transformations were conducted on the basis of participant location in a frequency distribution. For age-independent norms, the same method was utilized but without age-corrections being applied or participants being grouped into age ranges. Taken together, these data and associated tables have the potential to enhance MDC evaluations by allowing clinicians to compare a patient's performance on the CCTI to that of same-age peers as well as to adults regardless of age. These normative data also allow clinicians to: 1) interpret individual consent standards and 2) make comparisons between these standards.

Means and *SD* for the total sample and for CCTI variables of interest were provided in Table 2. Although some clinicians prefer to utilize a *z* score equation (i.e., [individual score – group mean]/*SD* = *z*) when determining the place of a particular individual on a normal curve, the use of scaled scores sometimes yield differing estimates. Whereas a *z* score equation yields a total *z* score in relation to a theoretical distribution, scaled scores represent an actual frequency distribution of raw scores obtained from the reference sample. Take, for instance, a 55-year-old female scoring a 22 on CCTI S5B. The utilization of a *z* score equation (i.e., [22 – 34.4] / 5.4) would yield a *z* score of −2.3 and place her performance at the 1st percentile. However, the utilization of a scaled score conversion would yield an age-corrected scaled score of 5 and place her performance at the 3rd-5th percentile.

The normative corrections introduced in this paper are presented in two distinct ways to allow clinicians two distinct points of reference: patient performance in relation to peers of a similar age and patient performance in relation to adults regardless of age. Although we acknowledge that some clinicians may view medical decision-making capacity as a threshold ability and choose to focus solely on the age-independent norms introduced in this paper, we believe the use of age-corrected norms for the CCTI has the potential to provide a clinician with valuable information. First, by referencing normative data corrected for age, a clinician gains an estimate of a patient's performance relative to others of the same age. What level of performance is typical for a patient of a particular age? How is an older adult patient performing in relation to other older adults of the same age? The answers to these questions can help a clinician gain perspective about a patient and can be answered by referencing the age-corrected normative data introduced in this paper. Second, although the CCTI is a measure of medical decision-making capacity, it utilizes hypothetical vignettes and not actual medical situations. Thus, similar to neuropsychological and performance-based functional measures, performance on the CCTI is influenced to a degree by the cognitive capabilities of the patient. Finally, the CCTI is designed to be used in conjunction with other information when making determinations about a patient's medical decision-making capacity. In other words, decisions about a patient's ability to make medical decisions should not be based solely on CCTI performance. Information obtained from other

sources (e.g., patient and family interview, neurocognitive testing, education, medical condition) should be taken into account when evaluating the medical decision-making capacity of a patient. Regardless, the normative data introduced in this paper provide clinicians two important points of reference to consider when evaluating a patient's medical decision-making capacity.

For clinicians who may not be familiar with making normative corrections, instructions are provided. To use these normative data, clinicians should convert raw performance or timing scores to age-corrected scaled scores. To do so, a clinician should initially identify which midpoint age range is closest to the age of the person being assessed and locate the corresponding table. Next, the clinician should match the score or time on the CCTI variable of interest with its corresponding scaled score in the far left column of the table (i.e., Scaled Score) and record the number. This will be the age-corrected scaled score. Take a 72-year-old woman who scored a 71 on CCTI Total as an example. To convert this raw score into an age-corrected scaled score, the clinician should first locate the woman's score (i.e., 71) under the appropriate column (i.e., CCTI Total) in Table 10 (i.e., midpoint age 70). By looking in the far left column labeled “Scaled Score,” the clinician can convert the raw score of 71 to a scaled score of 6. This scaled score corresponds to a percentile range of 11-18.

Although the current study has the potential to aid in medical decision making capacity evaluations, some caution is warranted. As with any normative study, the utility of the current norms is influenced by the similarity of the individual to the normative sample. For the current sample, participants were mostly white and most attended at least some college. Thus, the current norms may not be appropriate for all ethnic groups and education levels. In addition, the number of participants comprising some age-bands was limited. However, the number of participants comprising the age-bands utilized in the current study is consistent with numerous previous normative studies (Ivnik et al., 1992a; Ivnik et al., 1992b; Smith et al., 1997; Tombaugh, 2004). Finally, statistical valid sampling is more important for establishing normative values than it is for other purposes because the normative data become a standard against which future comparisons are made. Thus, these data should be considered preliminary and be investigated in future studies. Regardless, these data offer practitioners the first opportunity to compare the CCTI performance of their own patient to a normal comparison group of same-age peers as well as adults regardless of age. Such information could be quite helpful in using the CCTI in clinical evaluations of treatment consent capacity.

Acknowledgements

Foremost, we thank the people who participated in this study. The authors also thank the following technicians for their data collection and entry: Amanda Eakin, Kathleen Lowry, Angel Simmons, Heather Beard, Alexis Jewell, and Autumn Smith.

Funding

This study was supported by the NIH/NCATS [KL2 TR000166; Triebel], NIH/NIA [1R01 AG021927; Marson, PI], NIH/National Institute on Child Health and Human Development [1R01HD053074; Marson, PI], and by funds from the UAB Department of Neurology.

References

Bambara JK, Griffith HR, Martin RC, Faught E, Wadley VG, Marson DC. Medical decision-making abilities in older adults with chronic partial epilepsy. Epilepsy & Behavior: E&B. 2007; 10(1):63–68.

Dreer LE, Devivo MJ, Novack TA, Krzywanski S, Marson DC. Cognitive predictors of medical decision-making capacity in traumatic brain injury. Rehabilitation Psychology. 2008; 53(4):486–497. [PubMed: 20686627]

Duff K, Pattern D, Schoenberg MR, Mold J, Scott JG, Adams RL. Age- and education-corrected independent normative data for the RBANS in a community dwelling elderly sample. Clinical Neuropsychologist. 2003; 17(3):351–366. [PubMed: 14704885]

Dunn LB, Nowrangi MA, Palmer BW, Jeste DV, Saks ER. Assessing decisional capacity for clinical research or treatment: a review of instruments. Am J Psychiatry. 2006; 163(8):1323–1334. [PubMed: 16877642]

Dymek MP, Atchison P, Harrell L, Marson DC. Competency to consent to medical treatment in cognitively impaired patients with Parkinson's disease. Neurology. 2001; 56(1):17–24. [PubMed: 11148230]

Edelstein, B. Hopemont Capacity Assessment Interview Manual and Scoring Guide. Author; West Virginia University: 1999.

Gerstenecker A, Nabors LB, Meneses K, Fiveash JB, Marson DC, Cutter G, Triebel KL. Cognition in patients with newly diagnosed brain metastasis: Profiles and implications. Journal of Neuro-oncology. 2014

Grisso, T. Evaluating competencies: Forensic assessments and instruments. 2nd ed.. Plenum Press; New York: 2003.

Grisso, T.; Appelbaum, P. Assessing competence to consent to treatment: a guide for physicians and other health professionals. Oxford University Press; New York: 1998.

Grisso T, Appelbaum P, Hill-Fotouhi C. The MacCAT-T: a clinical tool to assess patients' capacities to make treatment decisions. Psychiatric Services. 1997; 48:1315–1319.

Herman H, Trachsel M, Biller-Andorno N. Physicians' personal values in determining medical decision-making capacity: a survey study. Journal of Medical Ethics. 2015 doi:10.1136/medethics-2014-102263.

Huthwaite JS, Martin RC, Griffith HR, Anderson B, Harrell LE, Marson DC. Declining medical decision-making capacity in mild AD: A two-year longitudinal study. Behavioral Sciences & the Law. 2006; 24(4):453–463. [PubMed: 16883623]

Ivnik RJ, Malec JF, Smith GE, Tangalos EG, Petersen RC, Kokmen E, Kurland LT. Mayo's older Americans normative studies: Updated AVLT norms for ages 56 to 97. Clinical Neuropsychologist. 1992a; 6(Suppl):83–104.

Ivnik RJ, Malec JF, Smith GE, Tangalos EG, Petersen RC, Kokmen E, Kurland LT. Mayo's older Americans normative studies: WAIS—R norms for ages 56 to 97. Clinical Neuropsychologist. 1992b; 6(Suppl):1–30.

Ivnik RJ, Malec JF, Smith GE, Tangalos EG, Petersen RC, Kokmen E, Kurland LT. Mayo's older Americans normative studies: WMS—R norms for ages 56 to 94. Clinical Neuropsychologist. 1992c; 6(Suppl):49–82.

Malec, JF.; Ivnik, RJ.; Smith, GE. Neuropsychology and normal aging: The clinician's perspective.. In: Parks, RW.; Zec, RF.; Wilson, RS., editors. Neuropsychology of Alzheimer's disease and other dementias. Oxford University Press; New York, NY: 1993. p. 81-111.

Malec JF, Ivnik RJ, Smith GE, Tangalos EG, Petersen RC, Kokmen E, Kurland LT. Mayo's older Americans normative studies: Utility of corrections for age and education for the WAIS—R. Clinical Neuropsychologist. 1992; 6(Suppl):31–47.

Marson DC, Dreer LE, Krzywanski S, Huthwaite JS, Devivo MJ, Novack TA. Impairment and partial recovery of medical decision-making capacity in traumatic brain injury: A 6-month longitudinal study. Archives of Physical Medicine and Rehabilitation. 2005; 86(5):889–895. [PubMed: 15895333]

Marson DC, Earnst KS, Jamil F, Bartolucci A, Harrell LE. Consistency of physicians' legal standard and personal judgments of competency in patients with Alzheimer's disease. Journal of the American Geriatrics Society. 2000; 48:911–18. [PubMed: 10968294]

Marson DC, Ingram KK, Cody HA, Harrell LE. Assessing the competency of patients with Alzheimer's disease under different legal standards: A prototype instrument. Archives of Neurology. 1995; 52(10):949–954. [PubMed: 7575221]

Marson DC, McInturff B, Hawkins L, Bartolucci A, Harrell LE. Consistency of physician judgments of capacity to consent in mild Alzheimer's disease. Journal of the American Geriatrics Society. 1997; 45:453–7. [PubMed: 9100714]

Martin RC, Okonkwo OC, Hill J, Griffith HR, Triebel K, Bartolucci A, Marson DC. Medical decision-making capacity in cognitively impaired Parkinson's disease patients without dementia. Movement Disorders: Official Journal Of The Movement Disorder Society. 2008; 23(13):1867–1874. [PubMed: 18759361]

Moye J, Gurrera RJ, Karel MJ, Edelstein B, O'Connell C. Empirical advances in the assessment of the capacity to consent to medical treatment: Clinical implications and research needs. Clinical Psychology Review. 2006; 26:1054–77. [PubMed: 16137811]

Okonkwo O, Griffith HR, Belue K, Lanza S, Zamrini EY, Harrell LE, Marson DC. Medical decision-making capacity in patients with mild cognitive impairment. Neurology. 2007; 69(15):1528–1535. [PubMed: 17923615]

Okonkwo OC, Griffith HR, Belue K, Lanza S, Zamrini EY, Harrell LE, Marson DC. Cognitive models of medical decision-making capacity in patients with mild cognitive impairment. Journal of the International Neuropsychological Society: JINS. 2008; 14(2):297–308. [PubMed: 18282327]

Pauker JD. Constructing overlapping cell tables to maximize the clinical usefulness of normative test data: Rationale and an example from neuropsychology. Journal of Clinical Psychology. 1988; 44(6):930–933. [PubMed: 3216017]

Smith GE, Wong JS, Ivnik RJ, Malec JF. Mayo's Older American Normative Studies: Separate Norms for WMS-R Logical Memory Stories. Assessment. 1997; 4:79–86.

Tepper A, Elwork A. Competency to consent to treatment as a psychological construct. Law and Human Behavior. 1984; 8:205–23. [PubMed: 11659145]

Tombaugh T. Trail Making Test A and B: Normative data stratified by age and education. Archives of Clinical Neuropsychology. 2004; 19:203–214. [PubMed: 15010086]

Trachsel M, Hermann H, Biller-Andorno N. Cognitive Fluctuations as a Challenge for the Assessment of Decision-Making Capacity in Patients With Dementia. American Journal of Alzheimer's Disease and Other Dementias. 2014 pii: 1533317514539377.

Triebel KL, Martin R, Griffith HR, Marceaux J, Okonkwo OC, Harrell L, Marson DC. Declining financial capacity in mild cognitive impairment: A 1-year longitudinal study. Neurology. 2009; 73(12):928–934. [PubMed: 19770468]

Triebel KL, Martin RC, Nabors LB, Marson DC. Medical decision-making capacity in patients with malignant glioma. Neurology. 2009; 73(24):2086–2092. [PubMed: 20018637]

Triebel KL, Martin RC, Novack TA, Dreer L, Turner C, Pritchard PR, Marson DC. Treatment consent capacity in patients with traumatic brain injury across a range of injury severity. Neurology. 2012; 78(19):1472–1478. [PubMed: 22496195]

Table 1

Sample Demographics for the CCTI Sample and Midpoint Age Ranges.

Variable	Total Sample (*n*=308)	MP 30 (*n*=45)	MP 35 (*n*=36)	MP 40 (*n*=40)	MP 45 (*n*=51)	MP 55 (*n*=63)	MP 60 (*n*=94)	MP 65 (*n*=94)	MP 70 (*n*=102)	MP 75 (*n*=80)	MP 80 (*n*=49)
Age [mean, (SD)]	59.7 (16.3)	28.5 (5.9)	33.7 (5.7)	39.6 (7.0)	47.9 (6.6)	55.6 (2.9)	60.8 (3.0)	65.0 (3.0)	69.7 (3.1)	74.2 (3.2)	79.0 (2.9)
Education [mean, (*SD*)]	14.8 (2.5)	13.1 (1.7)	13.0 (1.7)	13.3 (1.8)	14.1 (2.2)	15 (2.4)	15.3 (2.2)	15.3 (2.3)	14.7 (2.6)	15.0 (2.8)	15.8 (2.4)
Gender [*n*, (%)]											
Male	129 (42)	31 (69)	23 (64)	23 (58)	22 (43)	19 (30)	35 (37)	38 (37)	36 (38)	27 (34)	19 (39)
Female	179 (58)	14 (31)	13 (36)	17 (43)	29 (57)	44 (70)	59 (63)	64 (63)	58 (62)	53 (66)	30 (61)
Race [*n*, (%)]											
Caucasian	250 (81)	34 (76)	26 (72)	29 (73)	36 (71)	43 (68)	76 (81)	86 (84)	79 (84)	70 (88)	44 (90)
Other	58 (19)	11 (24)	10 (28)	11 (28)	15 (29)	20 (32)	18 (19)	16 (16)	15 (16)	10 (12)	5 (10)

Note. MP=midpoint age range, CCTI=Capacity to Consent to Treatment Instrument, *SD*=standard deviation.

Table 2

CCTI Scores for the Total Sample and by Midpoint Age Ranges [mean, (*SD*)].

Variable	Score Range	Total Sample (*n*=308)	MP 30 (*n*=45)	MP 35 (*n*=36)	MP 40 (*n*=40)	MP 45 (*n*=51)	MP 55 (*n*=63)	MP 60 (*n*=94)	MP 65 (*n*=94)	MP 70 (*n*=102)	MP 75 (*n*=80)	MP 80 (*n*=49)
Vig A: Reasoning	0-6	4.6 (1.6)	4.6 (1.5)	4.8 (1.5)	4.5 (1.7)	4.6 (1.7)	5.2 (1.2)	4.8 (1.5)	4.4 (1.6)	4.5 (1.6)	4.4 (1.7)	4.3 (1.7)
Vig A: Understanding	0-64	29.7 (5.4)	30.3 (5.3)	30.2 (4.7)	29.0 (5.3)	28.5 (4.9)	29.9 (4.5)	30.1 (4.6)	29.9 (4.9)	29.6 (5.1)	28.9 (5.5)	28.1 (6.2)
Vig A Total	0-77	41.2 (6.1)	41.7 (5.9)	41.7 (5.6)	40.4 (6.4)	40.0 (5.9)	42.0 (5.0)	41.8 (5.4)	41.2 (5.8)	40.8 (6.1)	40.0 (6.3)	40.0 (7.3)
Vig B: Reasoning	0-6	4.2 (1.7)	4.2 (1.5)	4.2 (1.6)	4.1 (1.6)	4.4 (1.6)	4.7 (1.6)	4.5 (1.6)	4.2 (1.7)	4.1 (1.7)	4.0 (1.7)	3.6 (1.8)
Vig B: Understanding	0-70	33.7 (6.3)	34.3 (5.3)	33.6 (5.4)	32.7 (5.3)	33.0 (5.8)	34.4 (5.4)	34.5 (5.0)	34.2 (5.5)	32.6 (5.3)	31.8 (4.7)	31.4 (4.9)
Vig B Total	0-82	43.7 (7.3)	44.2 (6.1)	43.4 (6.4)	42.4 (6.3)	43.1 (7.0)	44.5 (6.5)	44.7 (5.9)	44.3 (6.1)	42.5 (5.6)	41.6 (5.7)	40.6 (6.4)
Reasoning Total	0-12	8.7 (2.6)	8.8 (2.4)	8.8 (2.3)	8.4 (2.6)	8.7 (2.7)	9.8 (2.2)	9.3 (2.5)	8.6 (2.7)	8.6 (2.5)	8.4 (2.7)	7.8 (2.7)
Understanding Total	134	63.2 (10.3)	64.7 (9.1	63.8 (9.0)	61.6 (9.3)	61.1 (9.4	64.2 (7.5)	64.6 (7.9)	64.2 (9.3)	61.9 (9.4)	60.6 (9.0)	60.3 (9.5)
CCTI Total	0-159	84.8 (11.9)	85.8 (10.7)	85.1 (10.9)	82.4 (11.6)	82.5 (11.7)	86.2 (8.9)	86.4 (9.3)	85.5 (10.8)	82.9 (10.5)	81.5 (10.6)	80.6 (12.1)

Note. MP=midpoint age range, CCTI=Capacity to Consent to Treatment Instrument, *SD*=standard deviation, Vig A=Vignette A, Vig B=Vignette B.

Table 3

CCTI Raw Score Conversion to Age-Corrected Scaled Score for Midpoint Age=30 (Age Range=19-40).

Scaled Score	Vig A Reason (n=40)	Vig A Understand (n=40)	Vig A Total (n=40)	Vig B Reason (n=45)	Vig B Understand (n=45)	Vig B Total (n=45)	Reason Total (n=40)	Understand Total (n=40)	CCTI Total (n=40)	%ile
2		<18	<27		<19	<25	<2	<39	<52	<1
3		18	27		19	25	2	39	52	1
4		19	28		20-24	26-30		40-45	53-60	2
5	1	20	29	1	25	31-32	3	46-54	61-66	3-5
6	2	21-22	30-34		26-27	33-35	4-5	55	67-74	6-10
7	3	23-25	35-36	2	28-30	36-39	6	56-57	75-77	11-18
8		26-27	37-38	3	31	40-41	7	58-59	78-80	19-28
9	4	28-29	39-42		32-33	42-43	8	60-64	81-85	29-40
10	5	30-32	43	4	34-36	44-46	9	65-68	86-87	41-59
11		33	44	5	37	47	10	69-70	90-92	60-71
12	6	34	45-46		38	48-49		71-73	93-95	72-81
13		35	47-48	6	39-40	50-51	11	74-75	96-97	82-89
14		36-39	49-50		41-42	52	12	76-77	98-99	90-94
15			51		43	53		78	100	95-97
16		40	52						101-102	98
17			53		44	54		79	103	99
18			>53		>44	>54		>79	>103	>99

Note. Vig A=Vignette A, Vig B=Vignette B, Reason=Reasoning, Understand=Understanding, CCTI=Capacity to Consent to Treatment Instrument.

Table 4

CCTI Raw Score Conversion to Age-Corrected Scaled Score for Midpoint Age=35 (Age Range=25-45).

Scaled Score	Vig A Reason (n=40)	Vig A Understand (n=40)	Vig A Total (n=40)	Vig B Reason (n=45)	Vig B Understand (n=45)	Vig B Total (n=45)	Reason Total (n=40)	Understand Total (n=40)	CCTI Total (n=40)	%ile
2					<19	<24				<1
3					19	25				1
4	1	20	27-29		20-22	26-30	2-3	39-45	52-60	2
5			30-33	1	23	31-32	4	46-47	61-70	3-5
6	2	21-24	34		24-25	33	5	48-54	71-74	6-10
7	3	25	35-36	2	26-29	35-39	6-7	55-56	75-77	11-18
8		26-28	37-39	3	30-31	40-41		57-59	78	19-28
9	4	29-30	40-41		32	42-43	8	60-63	81-84	29-40
10	5	31-32	42-43	4	33-35	43-45	9	64-67	85-89	41-59
11		33	44	5	36-37	46-47	10	68-69	90-91	60-71
12	6	34	45-46		38	48		70-71	92-94	72-81
13			47	6	39	50-51	11	72-73	95-98	82-89
14		35	48		40-41	52	12	76-77	99	90-94
15		36-38	49-51		42	53		78	100-102	95-97
16		39	52						103	98
17						54				99
18						>54				>99

Note. Vig A=Vignette A, Vig B=Vignette B, Reason=Reasoning, Understand=Understanding, CCTI=Capacity to Consent to Treatment Instrument.

Table 5

CCTI Raw Score Conversion to Age-Corrected Scaled Score for Midpoint Age=40 (Age Range=30-50).

Scaled Score	Vig A Reason (n=40)	Vig A Understand (n=40)	Vig A Total (n=40)	Vig B Reason (n=45)	Vig B Understand (n=45)	Vig B Total (n=45)	Reason Total (n=40)	Understand Total (n=40)	CCTI Total (n=40)	%ile
2					<19	<24				<1
3					19	25				1
4	0	18-19			20-22	26-30		39-44	52-60	2
5	1	20	27-29	1	23-24	31-32	2-3	45	61-63	3-5
6	2	21-22	30		25	33-34	4-5	46-47	64	6-10
7	3	23-24	31-33	2	26-27	35-36	6	48-54	67-74	11-18
8		25	33-34	3	28-30	37-39	7	55-56	75-76	19-28
9	4	26-28	37-40		31	40-41	8	57-59	78-82	29-40
10	5	29-30	41-42	4	32-33	42-44	9	60-64	83-86	41-59
11		31-32	43-44	5	34-35	45-46		65-66	87-89	60-71
12	6	33-34	45		37-38	47	10	68-70	90-91	72-81
13		35	46-47	6	39	48-49	11	71-72	92-93	82-89
14		36	48		40	50-52		73-77	94-99	90-94
15		37	49-51		41	53	12	78	100	95-97
16		39	52						103	98
17					42	54				99
18					>42	>54				>99

Note. Vig A=Vignette A, Vig B=Vignette B, Reason=Reasoning, Understand=Understanding, CCTI=Capacity to Consent to Treatment Instrument.

Table 6

CCTI Raw Score Conversion to Age-Corrected Scaled Score for Midpoint Age=45 (Age Range=35-55).

Scaled Score	Vig A Reason (n=40)	Vig A Understand (n=40)	Vig A Total (n=40)	Vig B Reason (n=45)	Vig B Understand (n=45)	Vig B Total (n=45)	Reason Total (n=40)	Understand Total (n=40)	CCTI Total (n=40)	%ile
2		<18			<19	<25		<39	<52	<1
3	0	18			19	25		39	52	1
4		19		1	20-21	26-28		40-44	53-60	2
5	1	20	27-29		22	29-31	2-3	45	61-63	3-5
6	2	21-22	30-32	2	23-25	32-33	4-5	46-49	64-70	6-10
7	3	23-24	33-36		26-27	35-36	6	50-51	71-73	11-18
8		25	37	3	28-30	37-40	7	52-56	74-76	19-28
9	4	26-27	38-39	4	31-32	41	8	57-58	78-79	29-40
10	5	28-30	40-41	5	33-34	42-45	9	59-63	81-87	41-59
11		31	42-43		35-36	46-48	10	64-68	88-90	60-71
12	6	32-33	44	6	37-38	49	11	69-71	91-94	72-81
13		34	45-47		39-40	50-51		72	95-97	82-89
14		35-36	48		41	52	12	73	98	90-94
15		37	49		42	53		74	99	95-97
16		38	50-51		43	54-55		75-77		98
17		39	52		44	56		78	100	99
18		>39	>52		>44	>56		>78	>100	>99

Note. Vig A=Vignette A, Vig B=Vignette B, Reason=Reasoning, Understand=Understanding, CCTI=Capacity to Consent to Treatment Instrument.

Table 7

CCTI Raw Score Conversion to Age-Corrected Scaled Score for Midpoint Age=55 (Age Range=50-60).

Scaled Score	Vig A Reason (n=40)	Vig A Understand (n=40)	Vig A Total (n=40)	Vig B Reason (n=45)	Vig B Understand (n=45)	Vig B Total (n=45)	Reason Total (n=40)	Understand Total (n=40)	CCTI Total (n=40)	%ile
2	<1	<22	<32	<1	<20	<24	<5	<48	<66	<1
3	1	22	32	1	20	25	5	48	66	1
4					21	26-28		49	67-71	2
5			33-34		22-24	29-34	6	50-51	72-73	3-5
6	2-3	23	35-36	2	25-27	35-36		52-55	74-75	6-10
7	4	24-25	37		28-29	37-39	7	56-57	76-77	11-18
8		26-27	38	3	30-31	40	8	58-59	78-79	19-28
9	5	28-29	39-41	4	32-33	41-43	9	60-62	80-83	29-40
10		30	42-43	5	34-36	44-46	10-11	63-67	84-89	41-59
11	6	31-32	44		37	47-49		68-69	90-93	60-71
12		33	45	6	38-39	50		70-71	94-95	72-81
13		34-35	46-48		40	51-52	12	72	96	82-89
14		36-38	49-50		41	53		73-75	97	90-94
15		39-41	51-54		42	54		76-77	98-100	95-97
16		42-43	55-56		43	55		78	101-102	98
17		44	57		44	56			103	99
18		>44	>57		>44	>56			>103	>99

Note. Vig A=Vignette A, Vig B=Vignette B, Reason=Reasoning, Understand=Understanding, CCTI=Capacity to Consent to Treatment Instrument.

Table 8

CCTI Raw Score Conversion to Age-Corrected Scaled Score for Midpoint Age=60 (Age Range=55-65).

Scaled Score	Vig A Reason (n=40)	Vig A Understand (n=40)	Vig A Total (n=40)	Vig B Reason (n=45)	Vig B Understand (n=45)	Vig B Total (n=45)	Reason Total (n=40)	Understand Total (n=40)	CCTI Total (n=40)	%ile
2	<1	<19	<27		<20	<25	<2	<47	<66	<1
3	1	19	27	0	20-23	25-33	2	47	66-67	1
4		20-21	28-31	1	24-25	34-35	3-4	48-50	68	2
5		22	32-34		26	36	5	51	69	3-5
6	2	23-24	35	2	27	37		52-55	71-73	6-10
7		25-26	36-37		28-29	38-39	6	56-57	74-77	11-18
8	3	27	38-39	3	30-31	40-41	7	58-59	78-81	19-28
9	4	28-29	40	4	32-33	42-43	8	60-62	82-84	29-40
10	5	30-31	41-43	5	34-36	44-45	9-10	63-67	85-88	41-59
11		32	44		37	46-48	11	68-69	89-94	60-71
12	6	33	45-46	6	38-39	49-50		70-72	95	72-81
13		34-35	47-48		40-41	51-52	12	73-74	96-97	82-89
14		36	49			53		75-76	98-100	90-94
15		37-38	50		42	54		78	101	95-97
16		39-43	51-56		43-44	55-56		79	102	98
17		44	57		45	57		80	103	99
18		>44	>57		>45	>57		>80	>103	>99

Note. Vig A=Vignette A, Vig B=Vignette B, Reason=Reasoning, Understand=Understanding, CCTI=Capacity to Consent to Treatment Instrument.

Table 9

CCTI Raw Score Conversion to Age-Corrected Scaled Score for Midpoint Age=65 (Age Range=60-70).

Scaled Score	Vig A Reason (n=40)	Vig A Understand (n=40)	Vig A Total (n=40)	Vig B Reason (n=45)	Vig B Understand (n=45)	Vig B Total (n=45)	Reason Total (n=40)	Understand Total (n=40)	CCTI Total (n=40)	%ile
2		<16	<24		<21	<27	<2	<37	<54	<1
3	0	16-18	24		21	27-29	2	37-42	54-59	1
4		19	25-26	0	22	30-33		43-44	60-62	2
5	1	20-21	27-30	1	23-25	34-35	3-4	45-46	63-67	3-5
6	2	22-23	31-35		26-27	36-37	5	47-53	68-72	6-10
7		24-26	36-37	2	28-29	38-39		54-57	73-77	11-18
8	3	27	38	3	30-31	40	6	58-59	78-79	19-28
9	4	28-29	39-40		32	41-42	7-8	60-62	80-83	29-40
10	5	30-31	41-43	4	33-35	43-45	9	63-66	84-87	41-59
11		32	44	5	36-37	46-47	10	67-70	88-92	60-71
12	6	33	45		38-39	48-49	11	71-72	93-95	72-81
13		34-35	46-47	6	40-41	50-53		73-74	96-97	82-89
14		36	48-49		42	54-55	12	75-78	98-100	90-94
15		37	50		43-44	56		79	101	95-97
16		38-43	51-56		45-46	57-59		80-88	102	98
17		44	57		47	60		89-91	103	99
18		>44	>57		>47	>60		>91	>103	>99

Note. Vig A=Vignette A, Vig B=Vignette B, Reason=Reasoning, Understand=Understanding, CCTI=Capacity to Consent to Treatment Instrument.

Table 10

CCTI Raw Score Conversion to Age-Corrected Scaled Score for Midpoint Age=70 (Age Range=65-75).

Scaled Score	Vig A Reason (n=40)	Vig A Understand (n=40)	Vig A Total (n=40)	Vig B Reason (n=45)	Vig B Understand (n=45)	Vig B Total (n=45)	Reason Total (n=40)	Understand Total (n=40)	CCTI Total (n=40)	%ile
2		<16	<24		<21	<27		<37	<55	<1
3	0	16-18	24-26	0	21	27-29		37-40	55-59	1
4		19	27			30-32	3	41-42	60-62	2
5	1	20	28-29	1	22-23	33-35	4	43-44	63-64	3-5
6	2	21-23	30-32		24-26	36	5	45-50	65-70	6-10
7	3	24-25	33-36	2	27	37	6	51-54	71-74	11-18
8		26-27	37	3	28-29	38-39	7	55-57	75-77	19-28
9	4	28	38-39		30-31	40		58-60	78-82	29-40
10	5	29-31	40-42	4	32-33	41-43	8-9	61-65	83-85	41-59
11		32	43-44	5	34-35	44-45	10	66-67	86-89	60-71
12	6	33	45-46		36	46-47	11	68-69	90-92	72-81
13		34-35	47-48	6	37-39	48		70-72	93-94	82-89
14		36-37	49		40-41	49-53	12	73-75	95-96	90-94
15		38	50		42-46	54-55		76-78	97-100	95-97
16		39-43	51-56		47	56-59		79	101	98
17		44	57		48	60		80	102	99
18		>44	>57		>48	>60		>80	>102	>99

Note. Vig A=Vignette A, Vig B=Vignette B, Reason=Reasoning, Understand=Understanding, CCTI=Capacity to Consent to Treatment Instrument.

Table 11

CCTI Raw Score Conversion to Age-Corrected Scaled Score for Midpoint Age=75 (Age Range=70-80).

Scaled Score	Vig A Reason (n=40)	Vig A Understand (n=40)	Vig A Total (n=40)	Vig B Reason (n=45)	Vig B Understand (n=45)	Vig B Total (n=45)	Reason Total (n=40)	Understand Total (n=40)	CCTI Total (n=40)	%ile
2		<17	<28			<24	<1	<41	<54	<1
3	0	17	28			24-31	1	41	54	1
4		18		0	22	32		42	55-62	2
5	1	19	29		23	33	3	43	63	3-5
6		20	30	1	24-25	34-35	4-5	44-45	64-65	6-10
7	2	21-24	31-33	2	26-27	36	6	46-52	67-73	11-18
8	3	25-26	34-36	3	28-29	37		53-55	74-75	19-28
9	4	27-28	37-38		30	38-40	7	56-59	76-79	29-40
10	5	29-30	39-41	4	31-33	41-42	8	60-63	80-85	41-59
11		31-32	42-44	5	34	43-44	10	64-66	86-88	60-71
12	6	33	45		35	45-46	11	67	89-90	72-81
13		34-36	46-48	6	36-37	47-49		68-69	91-93	82-89
14		37	49		38-39	50	12	70-75	94-95	90-94
15		38	50		40-41	51-53		76-79	96-100	95-97
16			51		42-43	54-55		80-82	101	98
17		39	52		44	56		83	102	99
18		>39	>52		>44	>56		>83	>102	>99

Note. Vig A=Vignette A, Vig B=Vignette B, Reason=Reasoning, Understand=Understanding, CCTI=Capacity to Consent to Treatment Instrument.

Table 12

CCTI Raw Score Conversion to Age-Corrected Scaled Score for Midpoint Age=80 (Age Range=75-86).

Scaled Score	Vig A Reason (n=40)	Vig A Understand (n=40)	Vig A Total (n=40)	Vig B Reason (n=45)	Vig B Understand (n=45)	Vig B Total (n=45)	Reason Total (n=40)	Understand Total (n=40)	CCTI Total (n=40)	%ile
2	<1	<17	<27			<24	<1	<41	<54	<1
3	1	17	27			24	1	41	54	1
4				0	22	25-28	2		55	2
5		18	28	1	23-24	29-33	3	42-44	56-62	3-5
6		19	29		25	34	4	45-46	63-64	6-10
7	2	20-23	30-33		26-27	35	5	51-52	65-70	11-18
8	3	24-25	34-35	2	28	36	6	53-54	71-73	19-28
9		26	36-37	3	29	37	7	55-57	74-78	29-40
10	4-5	27-30	38-42	4	30-32	38-41	8	58-63	79-85	41-59
11		31-32	43-44		33-34	42-43	9	64-66	86-89	60-71
12	6	33-35	45-46	5	35-36	44-47	10	67-69	90-92	72-81
13		36	47-49		37	48-49	11	70-71	93-94	82-89
14		37-38	50-51	6	38-39	50-51	12	72-73	95-99	90-94
15		39	52		40	52		75-76	100	95-97
16		40			41-43	53-55		77-82	101	98
17		41	53		44	56		83	102	99
18		>41	>53		>44	>56		>83	>102	>99

Note. Vig A=Vignette A, Vig B=Vignette B, Reason=Reasoning, Understand=Understanding, CCTI=Capacity to Consent to Treatment Instrument.

Table 13

CCTI Norms for Entire Sample (Age Range = 19-86).

Scaled Score	Vig A Reason (n=40)	Vig A Understand (n=40)	Vig A Total (n=40)	Vig B Reason (n=45)	Vig B Understand (n=45)	Vig B Total (n=45)	Reason Total (n=40)	Understand Total (n=40)	CCTI Total (n=40)	%ile
2		<16	<27		<20	<25	0	<37	<54	<1
3	0	16-17	27	0	20-21	25-27	2	37-39	54-59	1
4		18			22	28-30		40-42	60-62	2
5	1	19	28-29	1	23-24	31-33	3-4	43-45	63-64	3-5
6	2	20-22	30-33		25-26	34-35	5	46-51	65-71	6-10
7		23-25	34-36	2	27-28	36-37	6	52-55	72-74	11-18
8	3	26	37	3	29-30	38-40	7	56-58	75-78	19-28
9	4	27-28	38-40		31-32	41	8	59-61	79-82	29-40
10	5	29-31	41-43	4	33-34	42-45	9	62-66	83-87	41-59
11		32	44	5	35-36	46-47	10	67-68	88-91	60-71
12	6	33-34	45-46		37-38	48-49	11	69-71	92-94	72-81
13		35-36	47-48	6	39-40	50-51		72-74	95-96	82-89
14		37	49-50		41	52-53	12	75-76	97-99	90-94
15		38-39	51-52		42-43	54-55		77-79	100-103	95-97
16		40			44-45	56-57		80-83	104-108	98
17		41	53		47-48	58-60		84-99	109-126	99
18		>41	>53		>48	>60		>99	>126	>99

Note. Vig A=Vignette A, Vig B=Vignette B, Reason=Reasoning, Understand=Understanding, CCTI=Capacity to Consent to Treatment Instrument.