

Neuropsychology Service Telehealth Update

Movement Disorders Multidisciplinary Meeting

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COLUMBIA

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Overview

- Initiation of teleneuropsychology at CUIMC
- TeleNP background
- Adaptations, limitations, and advantages
- Procedures





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CUIMC Neuropsychology Service

Transition to teleneuropsychology

- ❖ General Neurology, Aging and Dementia, and Movement Disorders
- ❖ Paused in-person testing March 16, 2020
- ❖ Initiated teleNP April 1, 2020
- ❖ At full capacity by mid-May 2020
- ❖ Evaluated over 300 patients via teleNP
 - ❖ Assessment and feedback sessions, group cognitive tx in the works

Referral questions successfully addressed

- Dementia differential, FND, return to work, post-COVID syndrome, MS, TBI and concussion, neurooncology, psychiatric, academic accommodations

Referral limitations

- Pre-surgical epilepsy requiring motor testing to help with lateralization determination



InterOrganizational Practice Committee guidance of telehealth neuropsychological assessment (teleNP)

TeleNP defined as the application of audiovisual technologies to enable remote clinical encounters with patients to conduct neuropsychological (NP) assessments

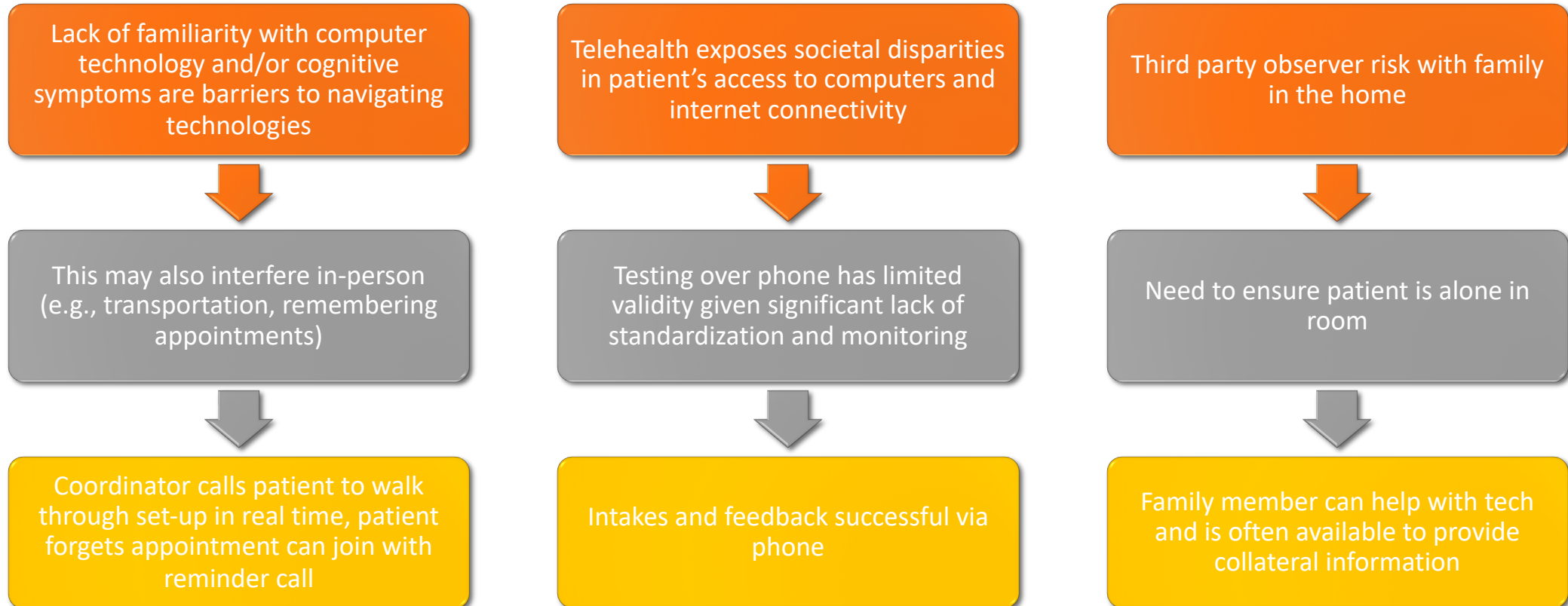
Specifically, available evidence supports concurrent validity, including robust within-person, across modality correlations for variety of tests (e.g. Brearly et al., 2017; Marra et al., 2020; Miller & Barr, 2017)

The Boston Naming Test	Rey-Osterrieth Complex Figure Test (Copy, Recall and recognition)
Brief Visual Memory Test – Revised	Oral Trail Making Test, Parts A and B
California Verbal Learning Test - Second Edition	Repeatable Battery for the Assessment of Neuropsychological Status
Clock Drawing Test	Trail Making Test, parts A and B
Delis-Kaplan Executive Function System (Proverbs Test)	Test of Practical Judgement
Digit Span	Verbal Fluency (Semantic, Phonemic Fluency)
Hopkins Verbal Learning Test-Revised	Wechsler Memory Scale - Fourth Edition (Logical Memory)
Mattis Dementia Rating Scale	

Studies generally used controlled conditions of teleNP clinic rather than home



Adaptations and Limitations





Adaptations and Limitations

- Standard test administration modified, impact on results not fully studied
 - Reduce confidence in the diagnostic conclusions
 - Anecdotally, several patients have returned for follow-up assessments after initial in-person assessment at least one year prior, results show stable findings
 - Clear patterns continue to emerge, such as amnesic and semantic retrieval deficits in AD, executive dysfx and slowed processing speed in PD, learning disorder profile, malingering
- Limited number of tests cannot be administered at this time
 - Tests of psychomotor processing speed modified
 - Coding ➔ Symbol Digit
 - TMT ➔ OTMT
 - Tests not given:
 - Computerized tests of sustained attention (CPT) and executive functioning (WCST)
 - Manipulatives (Tower Test, Block Design)
 - Motor (Grooved Pegboard, Grip Strength)



Procedures

- Approximately 1.5-3 hours
- No changes to interview procedure with patient and collateral, psychotherapeutic and remediation interventions
- Able to assess all cognitive domains:
 - Intellectual Functioning
 - Attention/Executive Functioning
 - Processing Speed (with exception of fine motor dexterity)
 - Language
 - Visuospatial Skills
 - Memory
 - Mood and Personality
- Most tests are question/answer, but some require paper pencil
- Share screen function necessary for several tests
 - Power point of test stimuli
- To avoid distortion and adequate viewing on visuospatial tests, tablet or computer is required (no smartphones)
- Single and serial feedback sessions (2 weeks and optional 6-8 weeks)
- Short-term cognitive remediation/psychotherapy



Advantages

- Some assessment tools have *improved* ease of use via computer
 - Timing of stimuli presentation can be automated
 - Real-time adjustment of font
 - Computer-based administration and scoring of psychological inventories
- Can include collaterals in interview from other locations
- Access to view patient living environment, how they navigate technology, provides more ecological validity and info regarding ADLs
- Lower rate of no show given ability to sign on at the last minute, take last minute appointments since no travel required
- Increase in requested single and serial feedback sessions
 - Improved follow-up with recommendations