

# Neuropsychological Evaluation: an Overview

Presented By:  
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## Case #1

- ◆ 28 y/o female driver, motor vehicle accident
- ◆ Seen at ER; discharged; no follow up care
- ◆ Referred by PCP for neuropsych testing due to memory complaints
- ◆ Primary Symptom Complaints:
  - Headaches-daily
  - Continuous fatigue
  - Forgetfulness-daily details
  - Reduced motivation
  - Problems with organization, planning, task completion
  - Depressed mood



## Case #2

- ◆ 45 y/o male patient status/post left hemisphere stroke
- ◆ Work related traumatic amputation
- ◆ Wheelchair dependent
- ◆ No use of right upper extremity
- ◆ Cognitive deficits
- ◆ Depression
- ◆ Hospitalized, outpatient rehabilitation, attendant care



## Case #3

- ◆ 60 y/o, female patient
- ◆ Struck to head by tent pole
- ◆ Hospitalized 4 days
- ◆ Speech impairment
- ◆ Depression
- ◆ Cognitive deficits
- ◆ Brief LOC, PTA >6 hours



## Case #4

- ◆ 17 y/o, single male, football collision
- ◆ No LOC
- ◆ No documented PTA
- ◆ No symptoms first 36 hours



## Match Each Case with the Condition:

- |         |   |
|---------|---|
| Case #1 | A. Traumatic Brain Injury               |
| Case #2 | B. Conversion Hysteria                  |
| Case #3 | C. Major Depressive Disorder, recurrent |
| Case #4 | D. Malingering                          |



## Factors to Consider:

- ◆ EMPLOYMENT
- ◆ COMPLIANCE
- ◆ DEPRESSION
- ◆ PREMORBID PERSONALITY
- ◆ TRAUMATIC BRAIN INJURY
- ◆ SUBSTANCE ABUSE
- ◆ PAIN DISORDER



## Neuropsychological Evaluation

Pre-Existing Personality Disorders	Specific Organic Factors	Post-Adjustment Disorders
<ul style="list-style-type: none"> <li>• Substance Abuse</li> <li>• Psychiatric Disturbance</li> <li>• Personality Disorder</li> <li>• Learning Disability</li> </ul>	<ul style="list-style-type: none"> <li>• Cognitive Impairment</li> <li>• Organic Personality Disorder</li> </ul>	<ul style="list-style-type: none"> <li>• Adjustment Disorder</li> <li>• Post-Traumatic Stress Disorder</li> <li>• Depression</li> <li>• Anxiety</li> <li>• Malingering</li> <li>• Hysterical Reactions</li> </ul>

## Disorders of Arousal & Attention

### ◆ Attention Deficit Disorders:

- Distractibility
- Impulsivity
- Problems with Memory and New Learning
- Problems with Foresight
- Planning and Decision-Making

## Perceptual Disorders

- ◆ Psychotic Disorders
- ◆ Traumatic Brain Injury
- ◆ Nonverbal Learning Disorders  
(I.E., Asperger's Syndrome)



## Disorders of Memory & Learning

- ◆ Traumatic Brain Injury
- ◆ Neurological Disorders
- ◆ Neurodevelopmental Disorders



## Cluster A

- ◆ Individuals appear odd or eccentric
  - ✓ Paranoid
  - ✓ Schizoid
  - ✓ Schizotypal

## Cluster B

- ◆ Individuals appear dramatic, emotional, or erratic
- ✓ Antisocial
- ✓ Borderline
- ✓ Histrionic
- ✓ Narcissistic

## Cluster C

- ◆ Individuals appear anxious or fearful
- ✓ Avoidant
- ✓ Dependent
- ✓ Obsessive Compulsive

## Assessment of Pre-morbid Personality

- ◆ Family of Origin
- ◆ Psychosocial Development
- ◆ Educational History
- ◆ Occupational History
- ◆ Interpersonal History
- ◆ Psychiatric History
- ◆ Substance Abuse History

### Premorbid Personality Assessment

Unemployed -----4	Less Than High School -----4
Employed/Unskilled -----3	High School Diploma -----3
Employed/Semi-skilled -----2	College Degree -----2
Employed/Skilled -----1	Graduate Degree -----1
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>Three Job Changes the Past Three Years -----4	≥ One DUI or Substance Treatment -----4
Two to Three Job Changes ----3	ETOH, Substance Usage -----3
One Job Change -----2	Moderate ETOH -----2
Same Job -----1	No Usage -----1
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≥Three Legal Convictions ----4	≥ Two Legal Claims -----4
Two Legal Convictions -----3	One Past Claim -----3
One Legal Conviction -----2	No Claims -----1
No Legal Conviction -----1	
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Pre-morbid Psychiatric History	
With ≥ One Hospitalization -----4	
Pre-morbid Psychiatric History Without Hospitalization ----3	
Personal Adjustment Issues -----2	
No Treatment -----1	

## Measures of Severity of Traumatic Brain Injuries

- ◆ Length of Coma
- ◆ Duration of Post Traumatic Amnesia
- ◆ Focal Damage  
(hemorrhage, contusion, hematoma)
- ◆ Neurologic Recovery Curve
- ◆ Neuropsychological Testing

## Injury Severity Assessment

### Length of Coma:

>Seven Days -----4  
 Two to Six Days -----3  
 Twelve to Twenty Four Hours ---2  
 Unconscious -----1  
 No LOC -----0

### Post Traumatic Amnesia:

>Ten Days -----4  
 Two to Nine Days -----3  
 Twelve to Twenty Four Hours ---2  
 Zero to One Hour -----1

Intracranial Bleed -----4  
 No Bleed -----0

Cerebral Edema -----4  
 No Edema -----0

Cerebral Contusions -----4  
 No Contusions -----0

### Rancho's Climb:

< Seven > Ten Days -----4  
 Three to Nine Days -----3  
 One to Two Days -----2  
 < One Day -----1

Post-traumatic Seizures ----4  
 No Seizures -----0

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### Total Score:

>16 = Very Severe  
 10-15 = Severe  
 5-9 = Moderate  
 < 5= Mild

## Profile of a Disability

Psychological Factors:

Adjustment to Disability



## Psychosocial Reaction to Disability

- A. Depression
- B. Anxiety
- C. Acute and Chronic Pain
- D. Maladaptive Coping



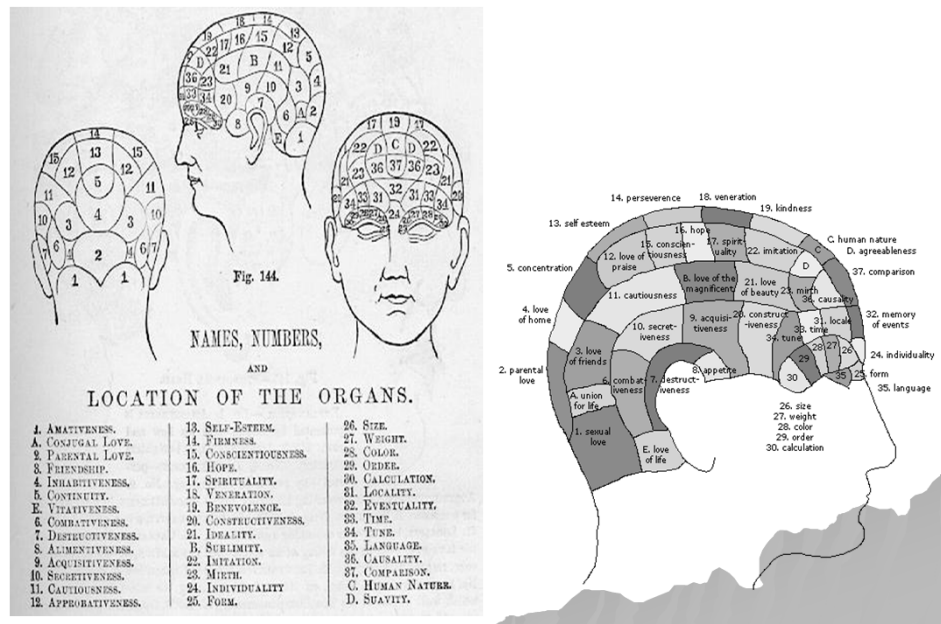


# Neuropsychology



- ◆ The objective evaluation of neurological and psychiatric disorders
1. Use of standardized psychological tests
  2. Clinical knowledge of psychiatric and neurologic disorders
  3. Knowledge of brain behavior patterns
  4. Knowledge of research and scientific findings

## Phrenology



## Independent Medical Evaluation (IME)

- ◆ Insurance Ordered Examination
- ◆ No Doctor / Patient Relationship
- ◆ Examiner Free of Liability?



## Limitations of Neuropsychological Evaluation as an IME

- ◆ Medical Concerns
- ◆ Headaches
- ◆ Fatigue
- ◆ Vestibular Complaints
- ◆ Family Observations
- ◆ Supporting Documentation
- ◆ Credibility of Examiner

## Mild Traumatic Brain Injury

- ◆ 75% of all TBI
- ◆ Little or no loss of consciousness

### Symptoms:

#### **Acute...**

- Post Traumatic Amnesia
- Nausea
- Vertigo
- Headaches
- Acute Confusion

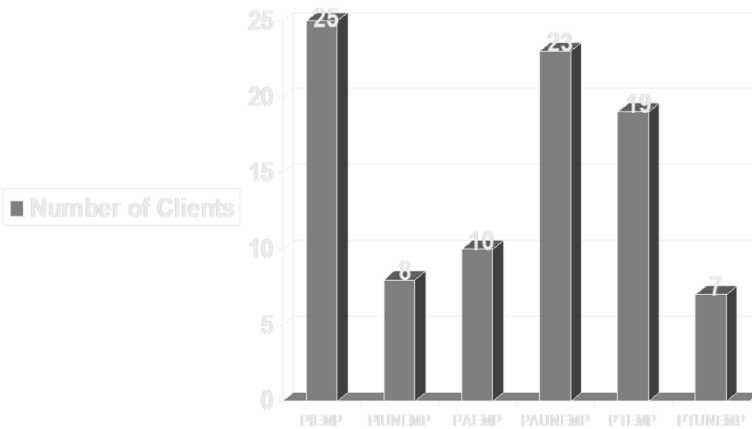
#### **Long Term...**

- Memory
- Concentration
- Mental Efficiency
- Distractibility
- Mood Swings
- Problem Solving
- Attention
- Fatigue
- Irritability
- Depression

Prognosis If Treated: Excellent...(65-90% are able to return to work)

## Mild to Moderate Severity of TBI

PAR Rehab Services, 1993-1996



PIEMP= Employed pre-injury  
 PIUNEMP= Unemployed pre-injury  
 PAEMP= Employed at admission  
 PAUNEMP= Unemployed at admission

PTEMP= Employed post-treatment  
 PTUNEMP= Unemployed post-treatment

## Interaction Effects

<b>Pre-morbid Psychiatric History</b>	<b>Injury Severity</b>	<b>Post Injury Adjustment</b>
• Personality Disorder	• Mild	• Depression
• Substance Abuse	• Moderate	• Anxiety
• ADHD	• Severe	• PTSD
• Learning Disability		• Hysteria
		• Malingering

## Assessment of Malingering

-Psychometric Evidence-

- ◆ Forced Choice Examination
- ◆ Objective Contradictory Evidence
- ◆ Client Admission
- ◆ Test Pattern Inconsistency
- ◆ Unequivocal Evidence

**Table 1.** Analysis of Variances Independence Measure: Employment Groups  
 Post-Injury Dependent Measure: Full-Scale IQ

Source	<i>dF</i>	Mean Square	<i>F</i> Ratio	<i>p</i>
Employment			6.2	<.001
Group	4	745.98		
Error	80	119.69		
Group		<i>M</i>		<i>SD</i>
Full-time employed		99.2 <sup>ab</sup>	12.5	
College students		99.1 <sup>ab</sup>		6.5
Part-time employed		87.2 <sup>cde</sup>	11.6	
Unemployed		87.0 <sup>cde</sup>	10.5	
Sheltered employment		79.3 <sup>cde</sup>		11.4

*Note.* Means with common subscripts for each individual measure, do not differ at the *p* < .01 level of significance.

## Evaluating Satisfaction of In-Home Psychological and Neuropsychological Assessments Completed Using Video-Based Telehealth Resources

Increased utilization of telehealth services has been widely documented among a variety of mental health fields, including psychiatry, counseling, substance abuse, and assessment. Recent advancements in telehealth resources (e.g., secure-video) have specifically allowed for an expansion of psychological and neuropsychological assessment services. While high levels of satisfaction for mental health-based telehealth services are generally described, closer examination of participant satisfaction for online psychological and neuropsychological assessment practices is required. Moreover, a majority of the satisfaction, reliability, and validity data regarding telehealth assessment has been collected through larger university and hospital-based testing programs using on-site sampling, with fewer studies reporting on satisfaction rates of services completed within the in-home environment. Adults ranging in age from 18 to 78 who completed an in-home video-based psychological or neuropsychological assessment in a large community-based private practice from May of 2020 to February of 2022 were asked to complete a telehealth satisfaction survey. Participants (N = 168) described high levels of satisfaction regardless of assessment type (psychological vs neuropsychological), age, gender, or education levels. Age appeared to be associated with frequency of testing complications and females described higher rates of perceived safety associated with access to online assessments than males.

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