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**BEHAVIORAL TREATMENT
IN LIGHT OF
COGNITIVE IMPAIRMENT:
TBI, ABI, AND BEYOND**

(IN TWO PARTS)

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THANK YOU



OBJECTIVES

- [1] Describe three traditional interventions for behavioral dyscontrol
- [2] Explain the uses and shortcomings of each treatment model
- [3] Identify an alternative model that works when the other interventions fail

NOT ALL PERSONS WITH BRAIN
INJURY HAVE BEHAVIORAL
PROBLEMS



PHOTO: KIMIN
BIB: CORNELL



- SOCIETY WILL NOT TOLERATE
- INTERFERES WITH TREATMENT
- STAFF INJURIES
- PERSON WITH BI INJURIES
- EXPENSIVE TO NOT TREAT
- INAPPROPRIATE TO NOT TREAT

ACQUIRED BRAIN INJURY

- TRAUMATIC BRAIN INJURY
- CEREBRAL VASCULAR ACCIDENT
- MENINGITIS/ENCEPHALITIS
- TOXIC ENCEPHALOPATHY
- METABOLIC ENCEPHALOPATHY
- HYPOXIC/ANOXIA
- BRAIN TUMOR
- CHEMICAL INDUCED ENCEPHALOPATHY

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POOR SAFETY/JUDGMENT
SEXUAL INAPPROPRIATE
PHYSICAL AGGRESSION
SOMATIC COMPLAINTS
VERBAL AGGRESSION
ELOPEMENT
WANDERING
HOARDING
ANXIETY

DEMANDS/MANIPULATES
UNAWARE OF DEFICITS
SUICIDAL/DEPRESSED
LOWERED COGNITION
SOCIAL WITHDRAWAL
NONCOMPLIANCE
HALLUCINATIONS
SELF-INJURIOUS
DELUSIONS



COGNITIVE DEFICITS
AND BEHAVIORAL
CORRELATES





**MUST KNOW HOW
COGNITION AFFECTS
THEIR LIVES,
BEHAVIOR AND
EMOTIONS**


**ALL TREATMENT
DEPENDS ON PERSON
PROCESSING
INFORMATION**

NEUROPSYCHOLOGICAL EVALUATION



***ESSENTIAL FOR UNDERSTANDING COGNITIVE FUNCTIONING
TO ADDRESS BEHAVIORAL ISSUES***

DISORIENTATION



INCREASES IRRITABILITY
-QUESTIONS CAN ANNOY
-TRANSFER ANNOYANCE FROM
QUESTION TO THERAPISTS
-HENCE, CAN INCREASE
NONCOMPLIANCE
CAN LEAD TO CONFABULATION
-INCREASE RESISTANCE TO
REDIRECTION
-INSIST ON TRUTH OF
CONFABULATION
-TAKE ACTION ON CONFABULATION:
RESIST CARE
CAN DECREASE SENSE OF COMPETENCY



ATTENTION AND CONCENTRATION

MISSED INFO LEADS TO POOR UNDERSTANDING

MISSED CUES LEADS TO CONFUSION

POOR ATTENTION TO ANSWERS TO THEIR QUESTIONS LEADS TO ANNOYANCE AT BEING IGNORED

MISSED CUES LEADS TO SOCIAL INAPPROPRIATENESS

PHOTO © KAROL 2009

EXECUTIVE DIFFICULTIES

POOR TRACKING CAUSES ERRORS LEADING TO FRUSTRATION

LASH OUT AT OTHERS

GUILT OR SELF DESTRUCTIVENESS

UNAWARENESS OF ERRORS

MISMATCH BETWEEN THEIR IDEA OF THEMSELVES AND OTHERS' VIEW LEADS TO ARGUMENTS, RESENTMENT

REJECT FEEDBACK AND WANT TO BE LEFT ALONE

PERSEVERATION

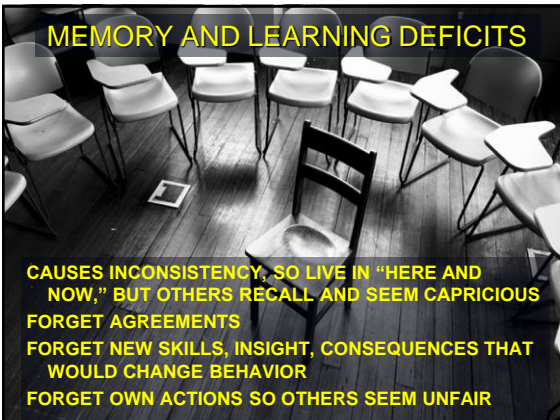
COGNITIVE IMPULSIVITY RESULTS IN BEHAVIOR/MOOD DRIVEN BY EMOTION AND SOCIAL/SEXUAL INAPPROPRIATENESS, ELOPEMENT, SUICIDE, ETC.

PASSIVITY LEADS TO ISOLATION SO OTHERS PUSH THEM

RESULTS IN IRRITABILITY



MEMORY AND LEARNING DEFICITS



CAUSES INCONSISTENCY, SO LIVE IN "HERE AND NOW," BUT OTHERS RECALL AND SEEM CAPRICIOUS
FORGET AGREEMENTS

FORGET NEW SKILLS, INSIGHT, CONSEQUENCES THAT WOULD CHANGE BEHAVIOR

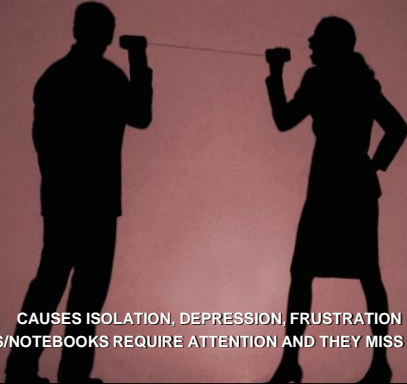
FORGET OWN ACTIONS SO OTHERS SEEM UNFAIR

VERBAL REASONING DEFICITS



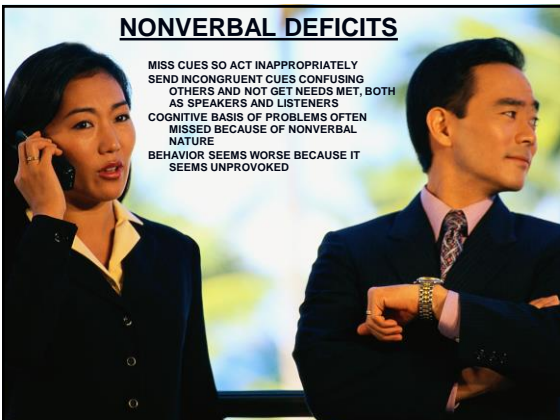
MISUNDERSTAND
INFORMATION
OTHERS REJECT
THEIR VIEWS
BECAUSE TOO
SIMPLE

LANGUAGE PROBLEMS



CAUSES ISOLATION, DEPRESSION, FRUSTRATION
DEVICES/NOTEBOOKS REQUIRE ATTENTION AND THEY MISS CONTENT

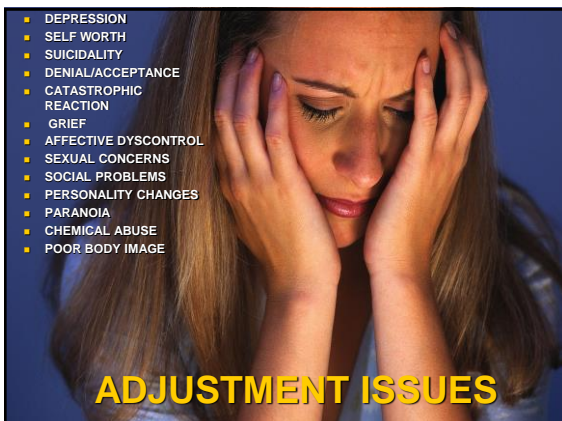
NONVERBAL DEFICITS



MISS CUES SO ACT INAPPROPRIATELY
SEND INCONGRUENT CUES CONFUSING
OTHERS AND NOT GET NEEDS MET, BOTH
AS SPEAKERS AND LISTENERS
COGNITIVE BASIS OF PROBLEMS OFTEN
MISSED BECAUSE OF NONVERBAL
NATURE
BEHAVIOR SEEMS WORSE BECAUSE IT
SEEMS UNPROVOKED








DENIAL

PSYCHOLOGICAL
DENIAL

KNOW DEFICIT
BUT HURTS TO
ADMIT

ANOSOGNOSIA

UNAWARENESS
OF DEFICIT



BEHAVIOR WORSENS AS DENIAL OF DEFICIT
INCREASES:

ACTIVELY AVOIDS TRUE EXPLANATIONS

CREATES DISSONANCE /STRESS:

INVESTED IN
SAVING FACE

ASSERT VALIDITY
OF POSITION





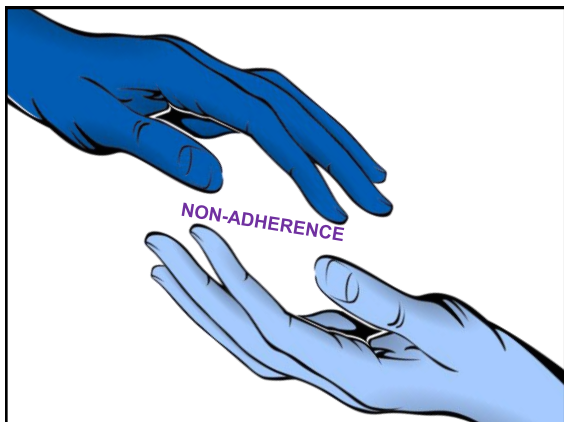


NON-COMPLIANCE

FAILURE TO ACT IN ACCORDANCE WITH A WISH OR COMMAND


FAILURE TO OBEY; THE CONDITION OR PRACTICE OF NOT OBEYING

FAILURE TO CONFORM TO RULES OR STANDARDS



PERCEPTIONS ABOUT HEALTH
BELIEFS ABOUT CURRENT ILLNESS
VIEWS OF TREATMENT
CAREGIVER RELATIONSHIP
PERSON'S GOALS
COGNITIVE STATUS
EMOTIONAL STATUS
PERSONALITY VARIABLES
PHYSICAL VARIABLES
CULTURAL VARIABLES
RELIGIOUS/SPIRITUAL BELIEFS
FAMILY BEHAVIOR





GRIEF AND DEPRESSION

PROBLEM OF STAGE THEORIES

GRIEF TENDS TO BE THOUGHT OF AS A PROCESS WITH STAGES

KUBLER-ROSS → DENIAL, ANGER, BARGAINING, DEPRESSION, AND ACCEPTANCE


BUT THESE WERE CONCEIVED AS STAGES FOR DEALING WITH DEATH: [1] A KNOWN AND [2] SINGLE EVENT

BRAIN INJURY IS GENERALLY [1] MISUNDERSTOOD AND [2] ONGOING

QUESTIONS



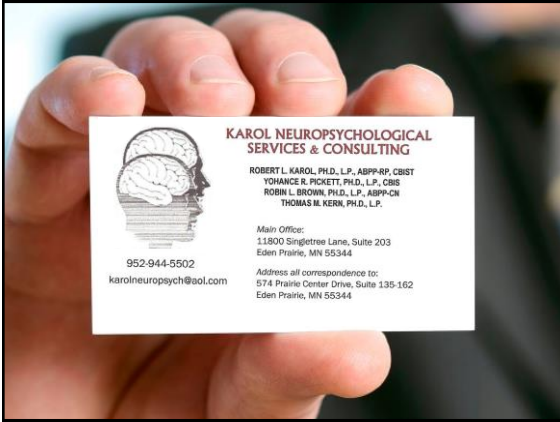
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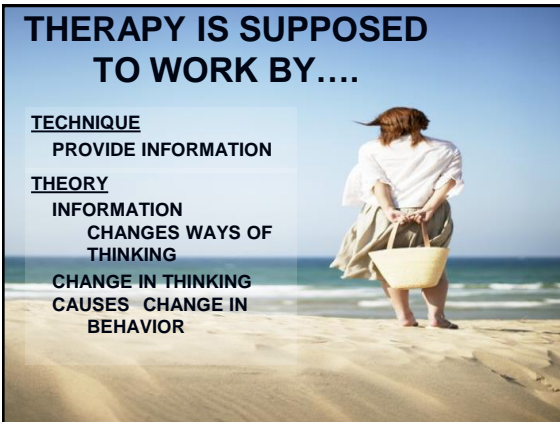






TRADITIONAL
TREATMENT

COUNSELING
SKILL BUILDING
CONTINGENCIES



THERAPY IS SUPPOSED TO WORK BY....

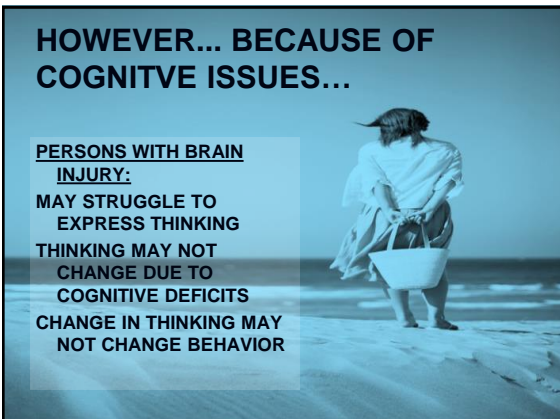
TECHNIQUE

PROVIDE INFORMATION

THEORY

INFORMATION
CHANGES WAYS OF
THINKING

CHANGE IN THINKING
CAUSES CHANGE IN
BEHAVIOR



HOWEVER... BECAUSE OF COGNITIVE ISSUES...

PERSONS WITH BRAIN INJURY:

MAY STRUGGLE TO
EXPRESS THINKING

THINKING MAY NOT
CHANGE DUE TO
COGNITIVE DEFICITS

CHANGE IN THINKING MAY
NOT CHANGE BEHAVIOR

SCHEDULING

FLEXIBILITY IS KEY

DURATION
TIME OF DAY
OTHER ACTIVITIES
FREQUENCY



START OF VISIT

REMIND TO TAKE NOTES
OR
TELL IF YOU WILL WRITE
DOWN NOTES FOR THEM



DURING VISIT

ASK IF THEY UNDERSTAND
IF THEY SAY "YES" ASK IF THEY MEAN:
"I AGREE AND WILL FOLLOW THROUGH."
OR
"I DISAGREE, BUT I AM AFRAID TO TELL YOU."

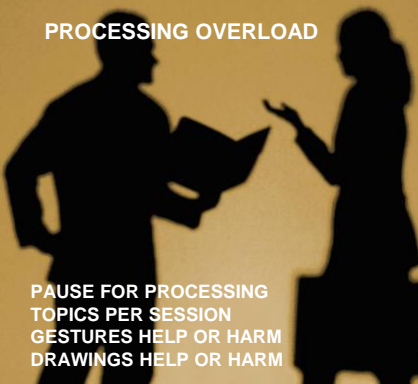









PROCESSING OVERLOAD



PAUSE FOR PROCESSING
TOPICS PER SESSION
GESTURES HELP OR HARM
DRAWINGS HELP OR HARM

END OF VISIT



BE CONCRETE ABOUT
NEXT STEPS
WHAT WILL YOU DO
WHAT MUST THEY DO
HAVE THEM REPEAT IT

SKILL BUILDING TREATMENT



TECHNIQUE

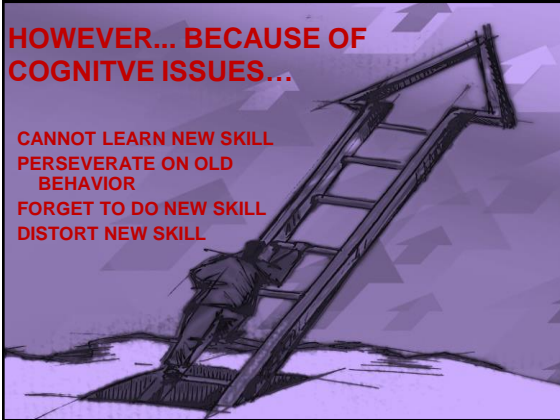
TEACH ALTERNATIVE
BEHAVIORS

THEORY

MORE EFFECTIVE
BEHAVIOR WILL
REPLACE OLD
INEFFECTIVE
BEHAVIOR

HOWEVER... BECAUSE OF COGNITIVE ISSUES...

CANNOT LEARN NEW SKILL
PERSEVERATE ON OLD BEHAVIOR
FORGET TO DO NEW SKILL
DISTORT NEW SKILL



ERRORLESS LEARNING

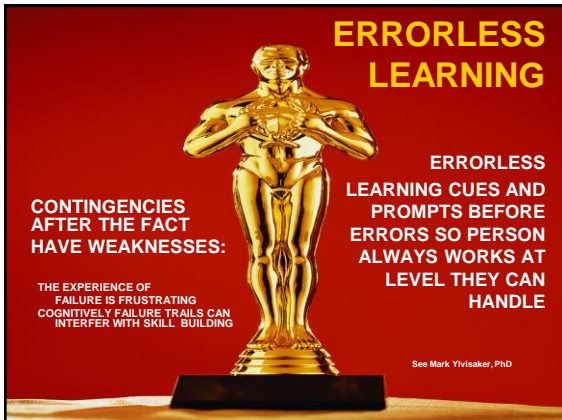
CONTINGENCIES
AFTER THE FACT
HAVE WEAKNESSES:

THE EXPERIENCE OF
FAILURE IS FRUSTRATING
COGNITIVELY FAILURE TRAILS CAN
INTERFERE WITH SKILL BUILDING



ERRORLESS
LEARNING CUES AND
PROMPTS BEFORE
ERRORS SO PERSON
ALWAYS WORKS AT
LEVEL THEY CAN
HANDLE

See Mark Yivisaker, PhD



THEORY BEHIND CONTINGENCIES

TECHNIQUE

MANIPULATE CONSEQUENCES

THEORY

BEHAVIOR CHANGES IN RESPONSE
TO CONSEQUENCES



DIFFICULTIES AS APPLIED TO BRAIN INJURY

ISSUES

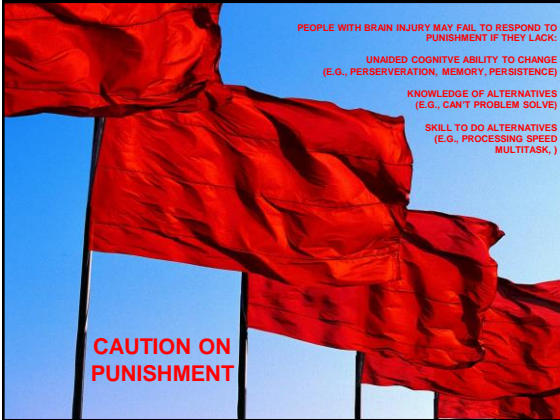
FORGET BEHAVIOR
FORGET CONSEQUENCES
REBEL AGAINST
CONSEQUENCES
CONSEQUENCES TOO WEAK
DO NOT ACT IN OWN BEST
INTEREST

REWARD AND PUNISHMENT

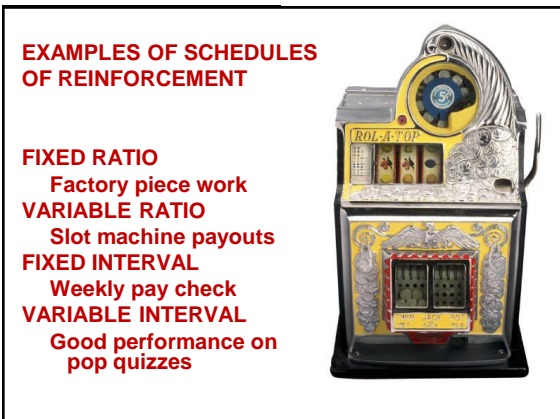
TYPE	ACTION	
	PROVIDE	WITHDRAW
DESIRABLE	POSITIVE REINFORCEMENT (SALARY)	NEGATIVE PUNISHMENT (REVOKE LICENSE)
UNDESIRABLE	POSITIVE PUNISHMENT (SPANKING)	NEGATIVE REINFORCEMENT (EARLY RELEASE)

CAUTION ON PUNISHMENT

YOU
CANNOT
INCREASE
APPROPRIATE
BEHAVIOR OR
TEACH A PERSON
WITH A BRAIN INJURY
WHAT TO DO WITH
PUNISHMENT







TOKEN/POINT ECONOMIES



ADVANTAGES:

- Less satiation
- Provides sense of choice
- Measured acquisition of large reward
- Decreases reward delay
- Not disrupt behavior flow to get reward

DISADVANTAGES:

- Can become stimulus for when to behave well
- Like a real economy can get legalistic disputes about debits, ambiguities, theft, hide behavior, blame others
- Specify the rules

IMPACT OF STAFF BEHAVIOR ON BEHAVIOR OF PEOPLE WITH BRAIN INJURY

Some believe that **95%**
of maladaptive
behaviors in treatment
after brain injury can
be accounted for by
staff behavior !!!!



Applied Behavior Management and Acquired Brain Injury:
Approaches and Assessment
Noo, BB, Schaub, C, Conway, J, Peters, S, Straus, D, Helsing, S
Journal of Head Trauma Rehabilitation:
August 2000 - Volume 15 - Issue 4 - p 1041-1060

INCONSISTENCY BETWEEN PROFESSIONALS

**SCHEDULES CAN
CHANGE
STAFF SPLITTING**



EXAMPLE CHANGE



PLAN: REWARD WHENEVER DOES GOOD ACT (FIXED RATIO/CONTINUOUS)

ACTUAL: REWARDED AT END OF SHIFT FOR GOOD ACTS (FIXED INTERVAL)

NOW FIND BETTER BEHAVIOR LATE IN SHIFT (SCALLOP EFFECT)



INCONSISTENCY RUINS TREATMENT

IF SAY, “NO, NO,
NO, NO, NO” HOW
MAY TRIALS OF
“NO” IS THAT?



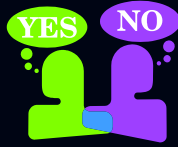
INCONSISTENCY RUINS TREATMENT

IF SAY, “NO, NO,
NO, NO, NO” HOW
MAY TRIALS OF
“NO” IS THAT?

ANSWER: 5

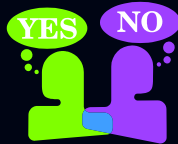
INCONSISTENCY RUINS TREATMENT

IF SAY, "NO, NO, NO, NO, **YES**" HOW MANY TIMES OF "NO" DOES IT TAKE TO NOW REACH **FIVE** "NO" TRIALS?



INCONSISTENCY RUINS TREATMENT

IF SAY, "NO, NO, NO, NO, **YES**" HOW MANY TIMES OF "NO" DOES IT TAKE TO NOW REACH **FIVE** "NO" TRIALS?



ANSWER: 25

INCONSISTENCY RUINS TREATMENT

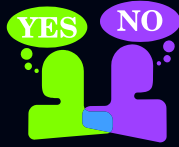
NO, NO, NO, NO, **YES**,
MAKES ONE TRIAL.

ALL OF THE "NO"
BEFORE THE **YES**
BECOME UNIMPORTANT.



INCONSISTENCY RUINS TREATMENT

NO, NO, NO, NO, YES/NO = 1 TRIAL
NO, NO, NO, NO, YES/NO = 2 TRIAL
NO, NO, NO, NO, YES/NO = 3 TRIAL
NO, NO, NO, NO, YES/NO = 4 TRIAL
NO, NO, NO, NO, YES/NO = 5 TRIAL

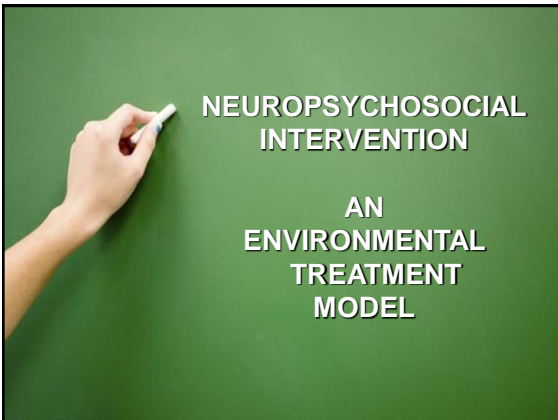


YOU TAUGHT THE PERSON THAT YOU MIGHT GIVE IN AFTER FIVE TIMES SO NOW THE PERSON ONLY LEARNS EVERY 5TH TIME THEY ASK !!!!

THE LONGER YOU GO BEFORE YOU GIVE IN THE WORSE IT IS !!!!

NEUROPSYCHOSOCIAL INTERVENTION

AN ENVIRONMENTAL TREATMENT MODEL



NEUROPSYCHOSOCIAL INTERVENTION



DO NOT TRY TO CHANGE PERSON TO FIT WORLD
CHANGE ENVIRONMENT (OTHER PEOPLE AND PHYSICAL WORLD) TO FIT THE PERSON







NEUROPSYCHOSOCIAL
ENVIRONMENT



STAFF ARE THE TREATMENT
MUST RUN THE SCRIPT
ACCURATELY
ADAPT TO THE NEEDS OF THE
PERSON

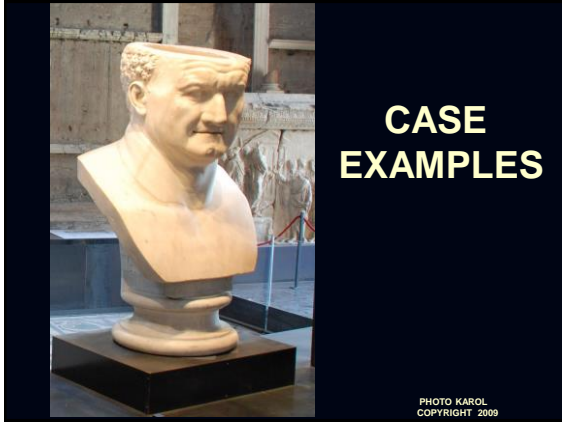
Care Plans




FOCUS ON STAFF
**NOT "PERSON
WILL...."**

CREATING THE
NEUROPSYCHOSOCIAL
ENVIRONMENT







Karol, R.L. (2013).
Principles of Behavioral Analysis and Treatment. In N.D. Zasler, D.I. Katz, & Zafonte, R.D. (Eds.) *Brain Injury Medicine* (2nd Edition).
www.demosmedical.com

