University of Connecticut
Health Center

CORRECTIONS-SPECIFIC TRANSLATIONAL RESEARCH:

Best Practices Applied to Reduction of Impulsive Aggression and Self-Injurious Behavior

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OBJECTIVES

- Define and review relevant research in impulsive aggression and self injurious behavior in general and correctional work in specific
- Review current relevant interventions
- Opportunities: A look to the future

INTRODUCTION

- We can only go up from here:
  - Despite the obvious need, there is as yet little RCT research on interventions conducted in jails or prisons on reducing impulsive aggression (IA) or self-injurious behavior (SIB)
- Research: Inmates “overprotected”?

INTRODUCTION

- What, then, do we know about corrections-specific IA and SIB
  - as disorders or behaviors?
  - effective interventions?
- How can we extrapolate from external basic and clinical research to corrections appropriate interventions?

INTRODUCTION

- Corrections-specific IA and SIB
  - Disproportionate problems
  - The Extreme Few
  - The Dysfunctional Many

INTRODUCTION

- Framework for Discussion
- Definitions
- IA &SIB
  - Nosology
  - Interventions

Impulsive Aggression and SIB

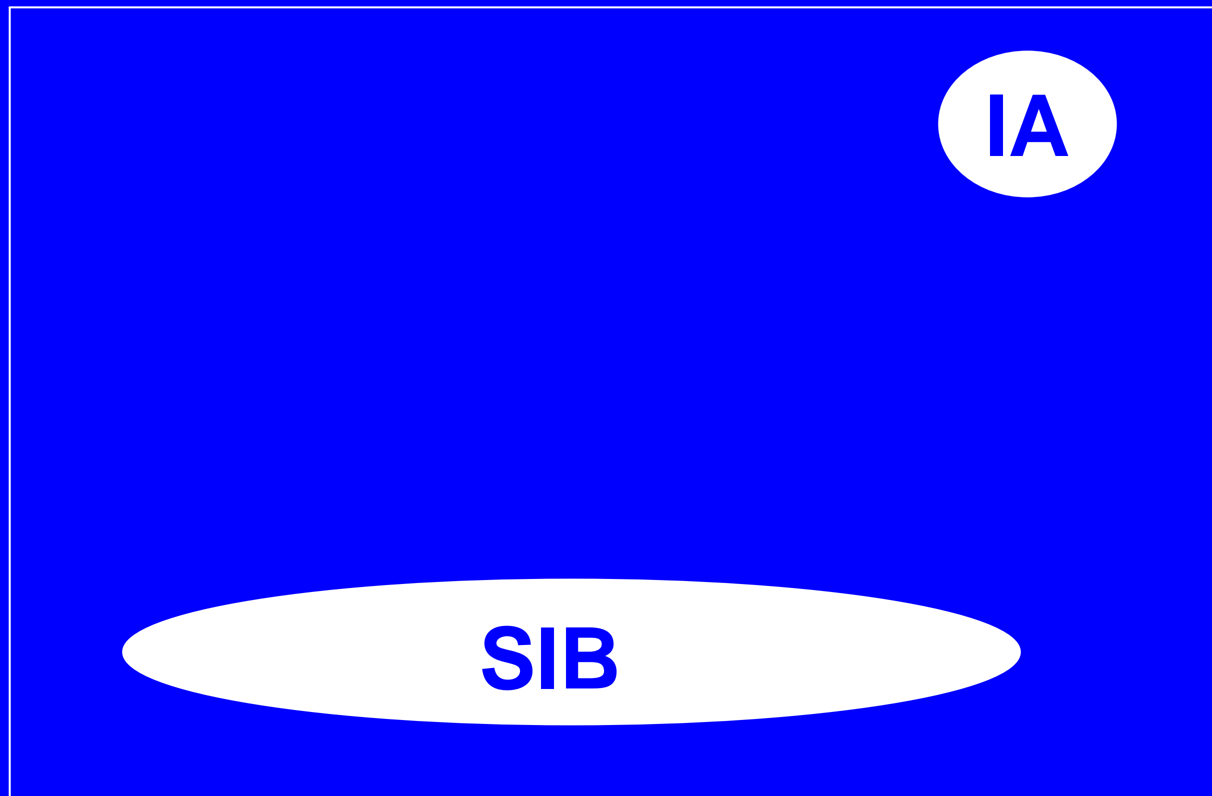
- Focus: Impulsive vs premeditated Aggression
- Focus: Self Injurious Behavior vs Suicidal Behavior

- Acknowledgement:
  - elements of both often coexist

CONTEXT

External

Internal



Planned Impulsive

SIB: Nosology and Typology

- Definition: Deliberate self-harm
- Generally Excludes: tattooing, suicidal intent, autoerotic intention
- Includes:
  - Cutting, scratching
  - Burning
  - Insertion/ injection/ swallowing
  - Enucleation, amputation
  - Evisceration & other unimaginable acts

SIB: Nosology and Typology

- Inadvertent suicide possible
- Severity: trivial to life threatening
- Frequency: rarely to often

- If it occurs in DOC, it's a problem

SIB: Nosology and Typology

- Winchel & Stanley (1991):
  - MR, psychotic, prisoners, character pathology
- Favazza (1996):
  - Major, stereotypic, moderate
- Meunier &Sellborn (2001): [DOC]
  - Manipulative, angry, dissociative

SIB: Purpose

- Community behaviors:
  - Delusion-driven (psychosis)
  - Stereotypy (MR/Autism)
  - Stress relief/ coping tool (Borderline PD)

  - Also: tattooing, piercing, suicidal intent, autoerotic intent

SIB: Purpose

Correctional behaviors:

- Delusion-driven (psychosis)- rare
- Stereotypy (MR/Autism)- occasional
- Stress relief/ coping tool

  (Borderline PD)- frequent

and

- **Secondary gain-** to get anything from R&R inpatient, bus therapy to television privileges, safety (avoid threats)

SIB: Epidemiology

- 14%-17% rates of SIB in community teens and young adults Klonski et al J Cons Clin Psychol 2008, 76:22-27
- 50% of female prisoners have 1 or more lifetime SIB Borril et al, Crim Behav Ment Health. 2003;13(4):229-40
- Cutting : 75% of SIB Jones Crim Just Behav 1986, 13:286-96
- Location: 50% in Seg/ RH Jones Crim Just Behav 1986, 13:286-96

SIB: Inmate Characteristics

- Race: Whites (often, not always)
- Age: Younger (often)
- Violent histories (in DOC, too)
- Scars present on intake
- Suicidal history

Delisi Behav Sci Law 2003, 21:653-669
Coid et al Br J Psychiatry 2002, 181: 473-80

SIB: Inmate Characteristics

Diagnoses

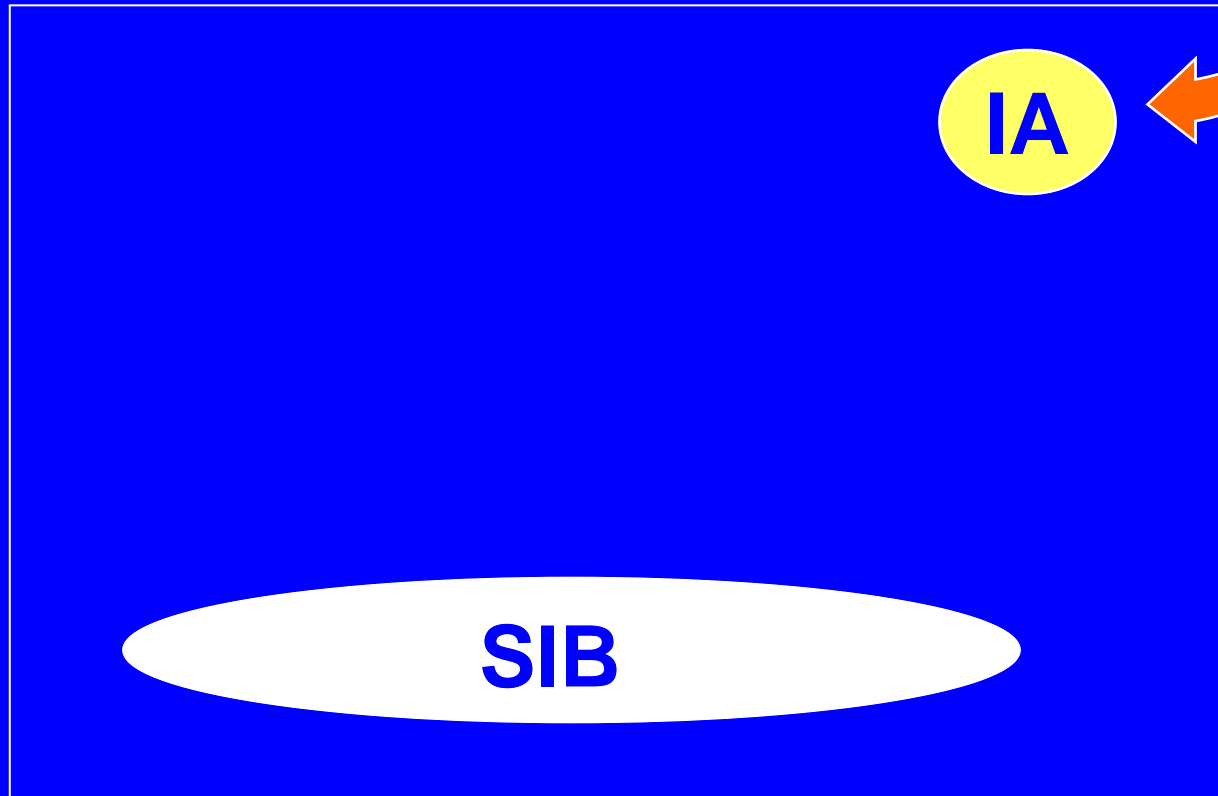
- Personality Disorder- BPD,ASPD
- Autism, Mental Retardation
- Psychotic Disorder
- Mixed

Rojahn et al Amer J Ment Retard 2004 109:21-33
Coid et al Br J Psychiatry 2002, 181: 473-80
Toch et al J Res Crime Delinq 1986 28:7-21

CONTEXT

External

Internal



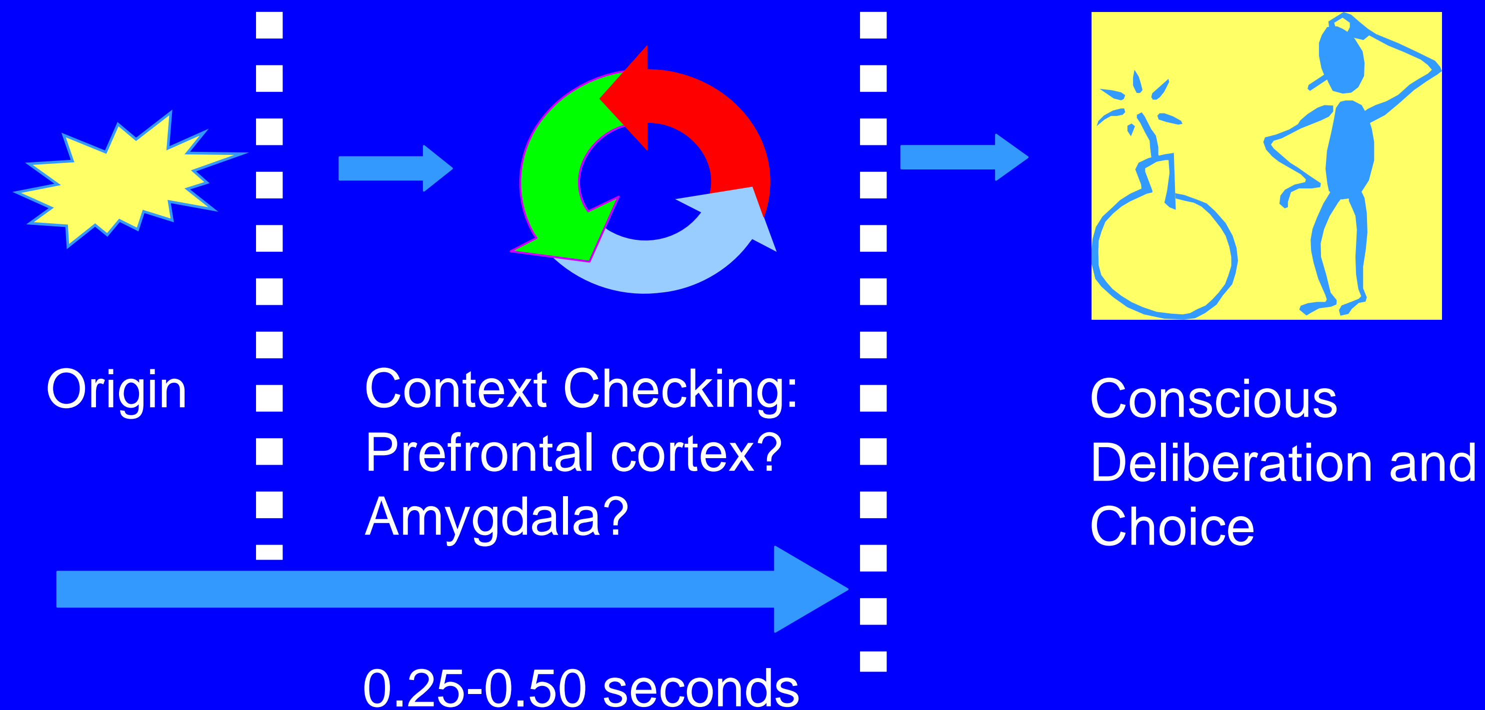
Planned Impulsive

So What Is Impulsivity?

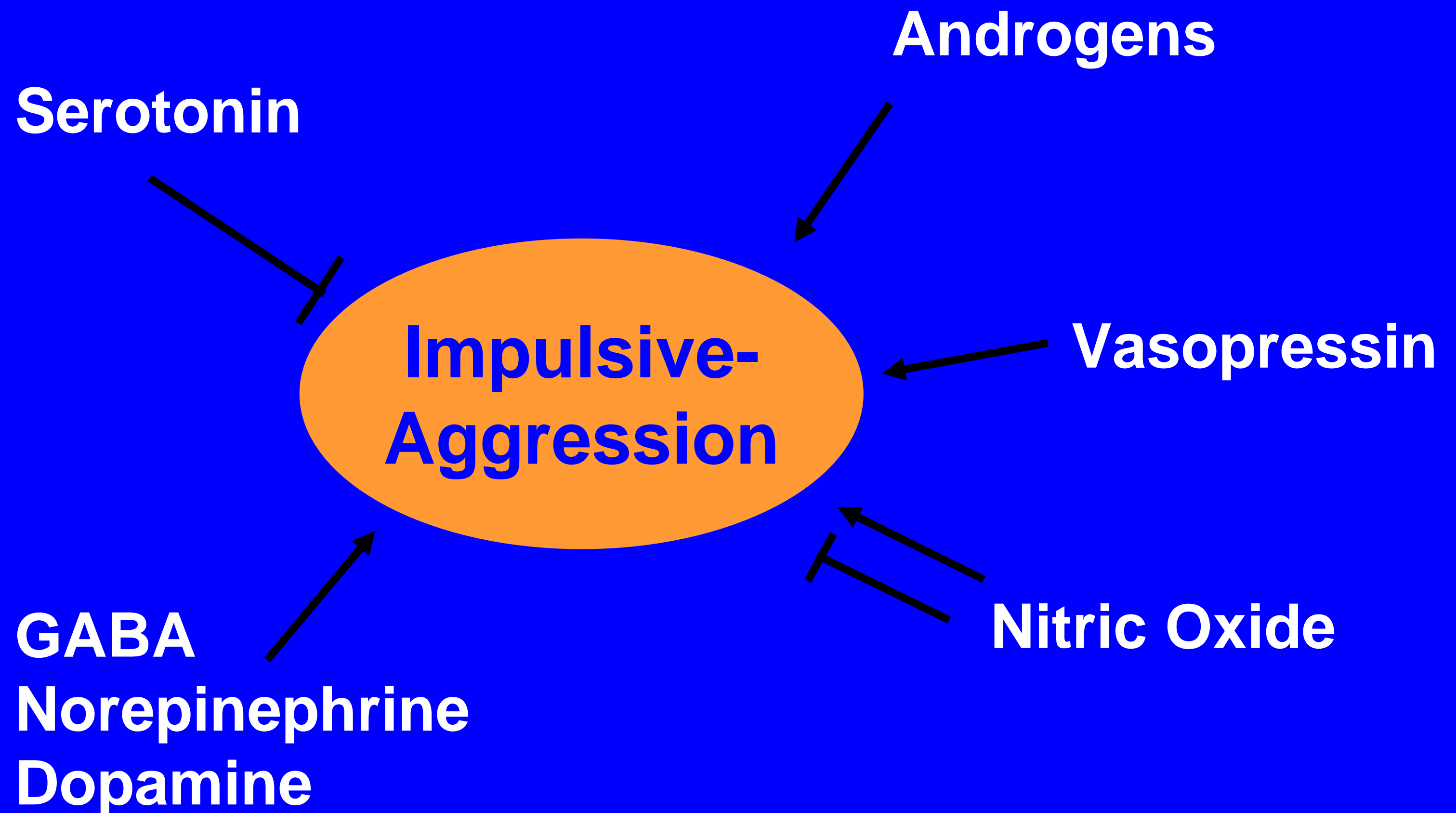
- Inability to match motivated behavior to its context
- Failure of normal 0.5 second feedback systems *
- No specific behavior is impulsive
  - Any act can be either impulsive or nonimpulsive

* Arnsten AF, et al. *Biol Psychiatry.* 1999;45:26-31.

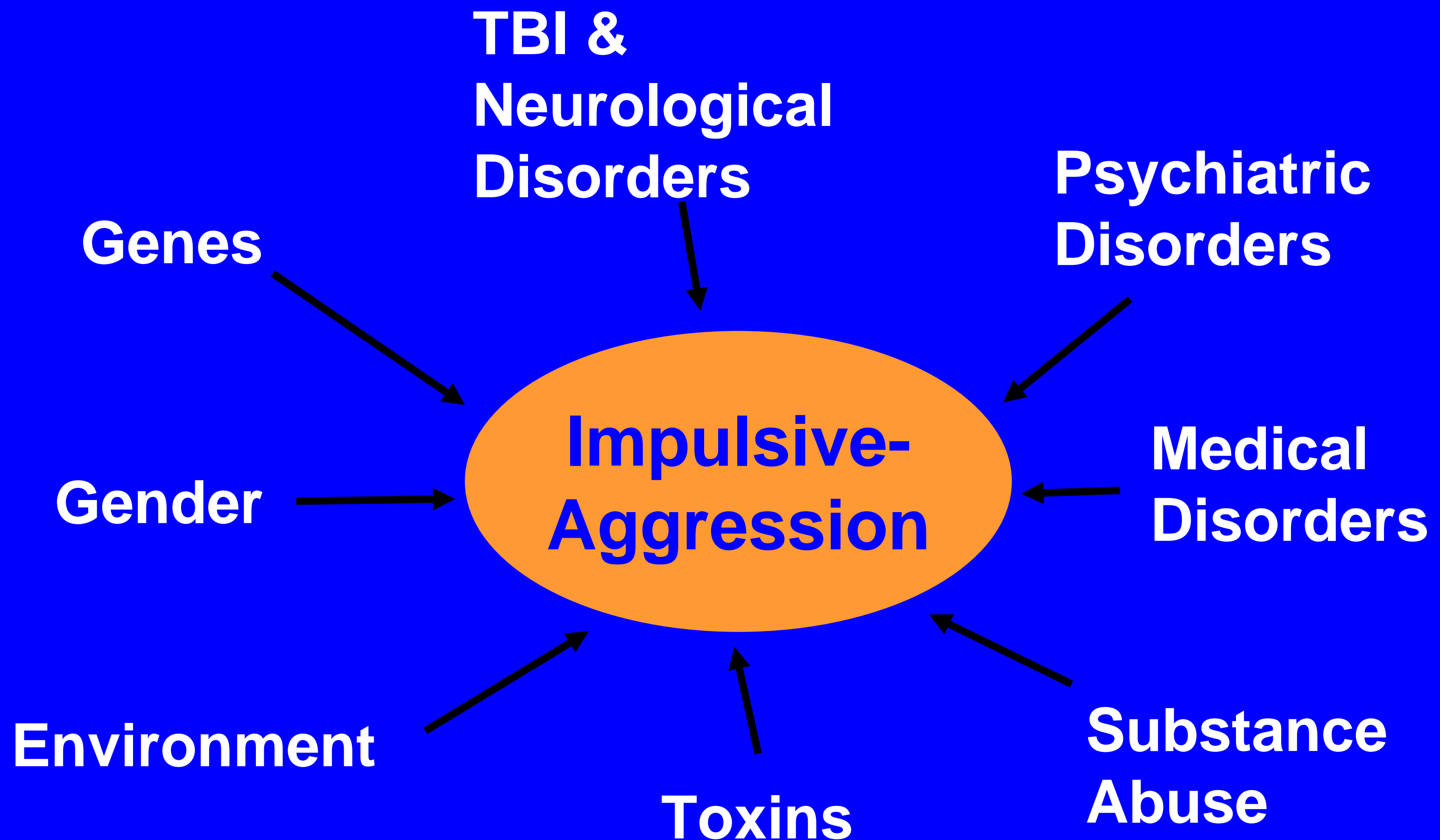
Matching Behavior to Context



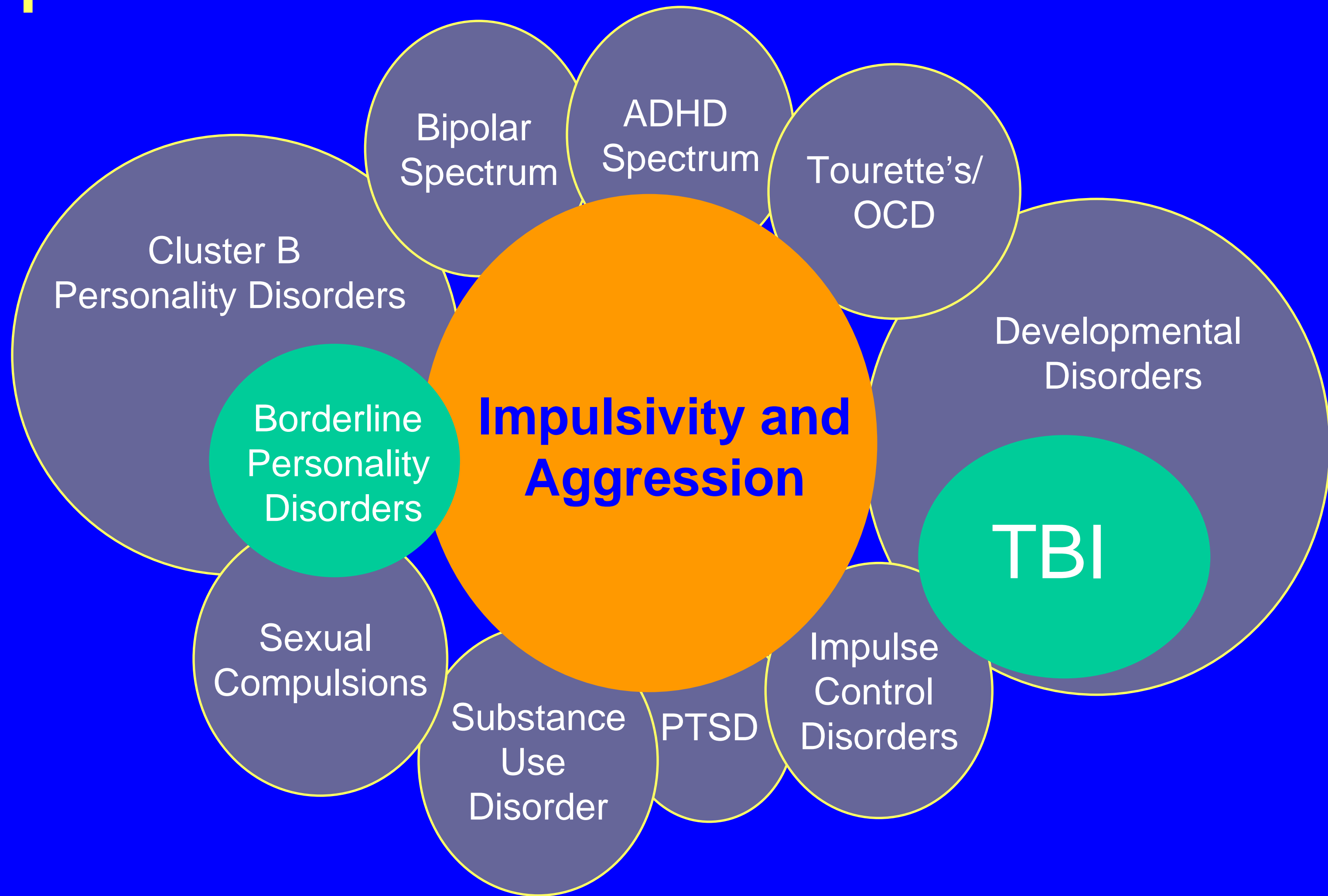
Neurochemistry of Impulsive Aggression



Contributing Factors



Impulsive-Aggressive Spectrum



After Hollander

Psychiatric Presentation
Traumatic Brain Injury

- Behavior and emotion dyscontrol (Sarapata et al., 1998).
- Prevalence rates of between 38% and 86% in prisons

  (Barnfield and Leathem, 1998; Turkstra, Jones and Toler, 2003; Sarapata et al., 1998; Brewer-Smith, Burgess and Shults, 2004; Walker, Hiller et al., 2003)
- Higher rate of TBI among those convicted of violent vs non-violent crimes (56% versus 38%)

  (Brewer-Smith, Burgess and Shults, 2004).

AXIS II PREVALENCE IN JAILS & PRISONS

- Consensus:
  - Elevations consistent with inpatient psychiatry units
- ASPD: Tautological elevation
  - 30-70%
- Borderline Personality Disorder
  - Men 12%, Women 23-28%

- Pinta 1999; Blackburn & Coid 1999; Jordan et al 1996; McElroy et al 1999; Asnis et al 1997; Daniel et al 1988; Neighbors 1987; Trestman et al 2007

AXIS II PREVALENCE IN CONNECTICUT JAILS

MEN:

- Paranoid PD 10.0%
- Borderline PD 12.9%
- Antisocial PD 39.5%

Trestman, Ford et al JAAPL 2007, 35:490-500

AXIS II PREVALENCE IN CONNECTICUT JAILS

WOMEN:

Paranoid PD	10.1%
Borderline PD	23.2%
Antisocial PD	27.0%
Avoidant PD	11.2%

Trestman, Ford et al JAAPL 2007, 35:490-500

BORDERLINE PERSONALITY DISORDER

- Individuals with BPD, by definition, have severe impairment of interpersonal skills.
- Impulsive and emotionally labile, self–mutilatory, aggressive, frequently attempt, and may ultimately commit, suicide.

Trestman *J American Acad Psychiatry Law*, 28:232-235, 2000.

BORDERLINE PERSONALITY DISORDER

(con't):

- Seen as manipulative and provoke staff responses such as irritation, frustration and anger.
- However frustrating they may be, they are disturbed, literally out-of-control, and the risk of self-harm is very high.

BORDERLINE PERSONALITY DISORDER

Symptoms may include aggression and self-mutilatory behaviors which usually result in:

- Receipt of numerous disciplinary recommendations (“tickets”):
- Persistent need for attention
- High utilization of medical and mental health services

Trestman *J American Acad Psychiatry Law*, 28:232-235, 2000.

ASPECTS OF UNDERLYING PSYCHOBIOLOGY

- Genetics
  - Familial Relationships: impulse control (particularly irritable aggression), perception management (Coccaro, Silverman, Siever)
  - Tryptophan Hydroxylase alleles: male "LL" homozygotes & BDHI hostility (Trestman, New)

ASPECTS OF UNDERLYING PSYCHOBIOLOGY

- Functional Neuroimaging
  - impulsivity, aggression in ASPD, reduced fronto-temporal rCBF and lexical decision task (Intrator et al)
  - accused murderers, reduced PET glucose metabolism in lateral and medial PFC (Raine et al)
  - Limbic abnormalities in affective processing in psychopaths by fMRI (Kiehl et al)

ASPECTS OF UNDERLYING PSYCHOBIOLOGY

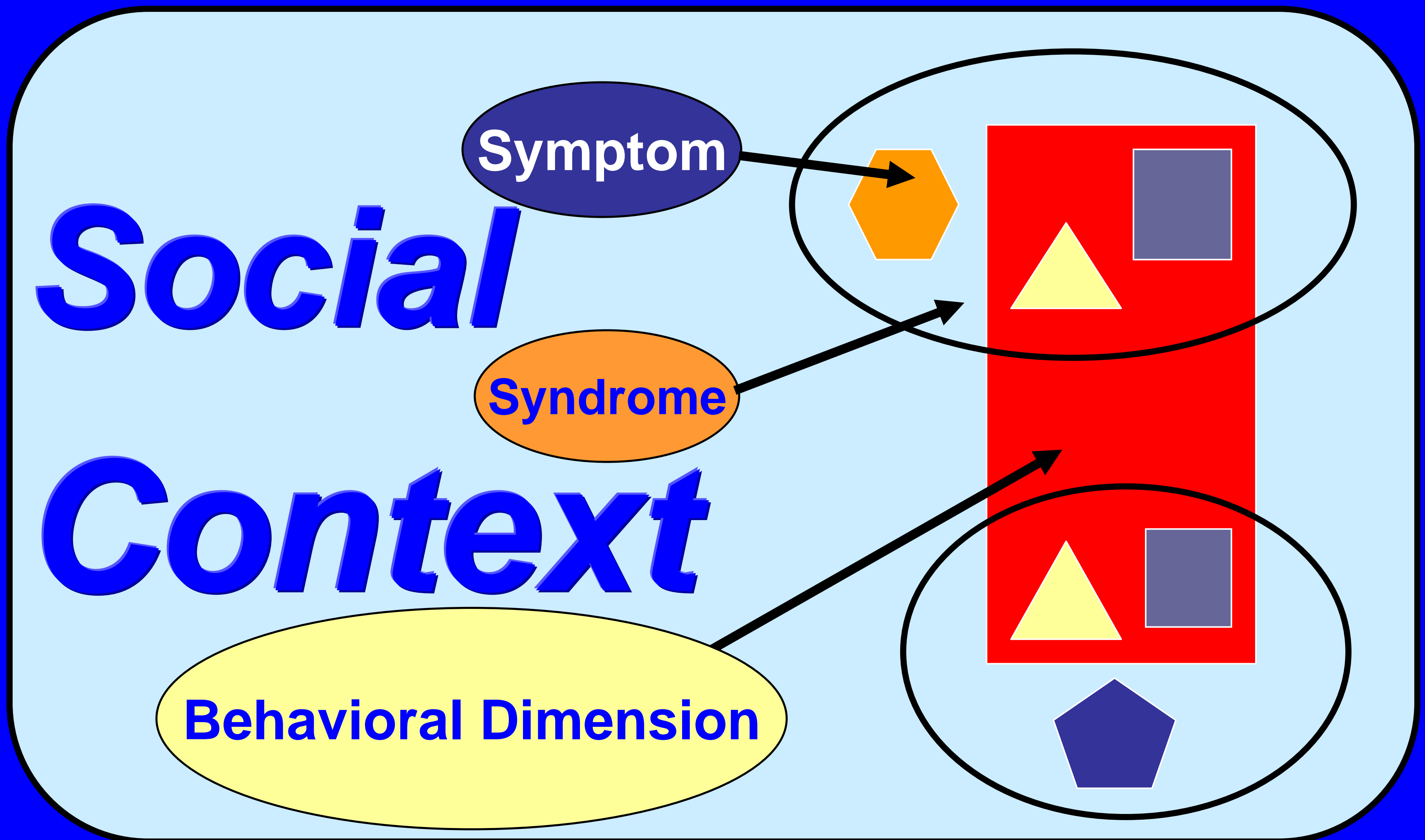
- Neurotransmitter Function
  - Serotonin: Fenfluramine, mCPP. Impulsive/ irritable aggression, suicidality, self mutilation

Coccaro et al; New, Trestman et al 1997; Cherek et al 1999

Interventions

- Appropriate and timely treatment of offenders with IA and/ or SIB can help reduce morbidity and contribute to a safer environment

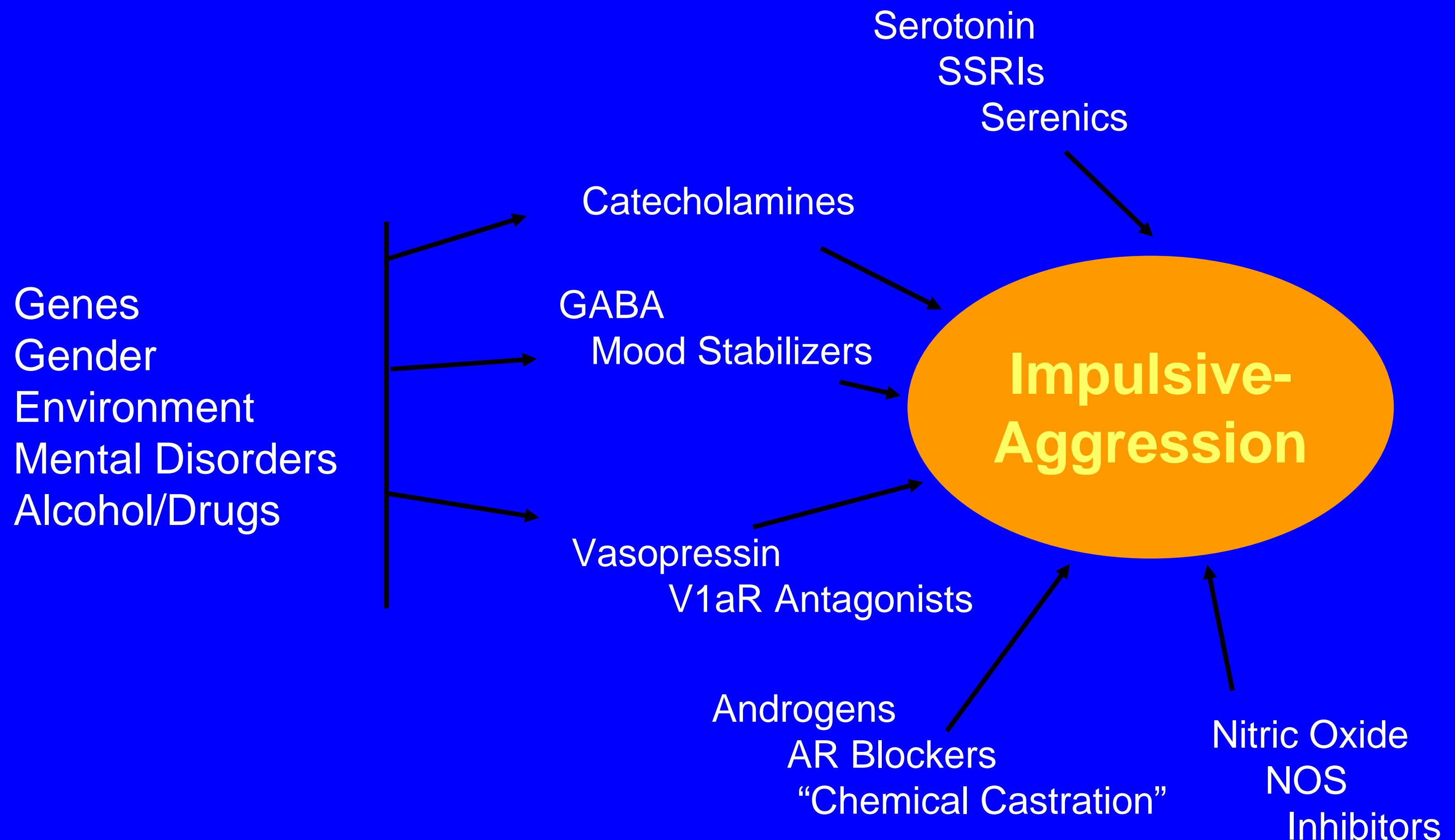
Levels of Intervention



Interventions

- **Pharmacology**
- Psychosocial/ Psychotherapy:
  - Individual- e.g., Behavior Management Plans
  - Program & Milieu- CBT-based

IMPULSE MANAGEMENT : Potential Sites for Intervention

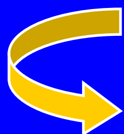


Anti-Impulsive Medications

- Mood stabilizers
  - Lithium, Valproate/ Divalproex
- SSRIs
- Atypical and typical antipsychotics
  - especially clozapine
- Beta-blockers
- Alpha-agonists (e.g., clonidine)

Lithium (Li) and Impulsive Aggression

- Young male, incarcerated patient with chronic impulsive aggression
- Li vs placebo for up to 3 months
- Li significantly better than placebo in ↓ aggression



Sheard MH, et al. *AM J Psychiatry*. 1976;133:1409-1413.

SIB Medications?

- Borderline PD or Psychosis
  - Case studies in support of anticonvulsants, SSRI's, antipsychotics
- MR or Autism spectrum
  - Naltrexone
    - Multiple studies, fairly consistent positive results- eg: Petty & Oliver, Curr Opin Psychiatry 2005 18:484-9. Symons et al Ment Retard Dev Dis Res Rev 2004, 10:193-200

Interventions

- Pharmacology
- **Psychosocial/ Psychotherapy:**
  - Individual- e.g., Behavior Management Plans
  - Program and Milieu- CBT-based

Psychosocial Treatment Strategies

- Recognize problematic situations and emotions
- Maintain optimal level of stimulation
- Develop problem-solving skills
- Enhance structure and interpersonal boundaries
- First level- target thoughts & behaviors
- Second level- meaning and motivation

Behavioral Management Plans

- For the Extreme Few
- Requires an understanding of
  - Target behaviors
  - Reinforcers
- Requires close collaboration and communication among all care providers and custody staff
- Reward, not punishment, focused
  - N.B.: most impulsive people have diminished concerns about future negative consequences

Behavioral Management Plans

- Developed/ developing approach
- Anecdotal information
- Based on CBT concepts of:
  - Positive and negative reinforcement
  - Extinction protocols
- Very individual specific
- Should be supported by Policy and Procedure/ Administrative Directive

Psychotherapy & Skills Training

- For the Dysfunctional Many
- Cognitive behavioral techniques can be used to reframe maladaptive thinking
- Skills training for reducing aggression and self-destructive behaviors and promoting prosocial and effective interpersonal behaviors

U.S. Department of Justice
National Institute of Corrections

COGNITIVE-BEHAVIORAL TREATMENT

A Review and Discussion for Corrections Professionals

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May 2007

NIC Accession Number 021657

CBT Programs: Offenders

- Aggression Replacement Therapy® (ART)[1]
- Strategies for Self Improvement and Change (SSC)[2]
- Moral Reconation Therapy® (MRT)[1,2]
- Reasoning and Rehabilitation (R&R, R&R2)
- Relapse Prevention Therapy (RPT)[2]
- Thinking for a Change (T4C)

Original Population:

- 1 Juvenile Justice
- 2 Substance Abuse

from Milkman & Wanberg, 2007

Psychotherapeutic Interventions

- Dialectical Behavior Therapy (DBT): A manual-driven cognitive behavior therapy with emphasis on treating life-threatening and therapy-interfering behaviors (Linehan)
  - Reduces suicidal and parasuicidal behaviors
  - Reduces impulsive aggression
  - Multiple correctional adaptations are evolving

Berzins & Trestman, Intl J Forensic Mental Health 2002

Table 1

Summary of DBT Used in Different Correctional Facilities

Institution	Contact	Population	Screening	Assessment	Modules	Hours	Length	Additional Treatment	Treatment Manual	Training Manual	Other
Colorado Mental Health Institute	Robin McCann	male forensic inpatients	patient agreement	quizzes, exams, roleplay	4, ER-revised to address ASPD	2x/wk,75 min, 3-12 per group	M-3 repeat 2-3,IE-14;ER-10,DT-10	BCA group, Advanced DBT-Crime Review	yes	no	case consultation
US Med Ctr for Fed Prisoners-Axis II Program	Georgina Ashlock	male forensic inpatients, BPD	extensive	none mentioned	4 standard, "modify in the moment"	1 hr 2x wk; 13 per grp	standard	skills review, assertiveness, team bldg	no	no	many inmates thrown out
Correctional Services of Canada	Donna McDonough	female forensic inmates, MHU & max sec	behaviors consistent with BPD, no cognitive impairment	don't graduate until behavior changes	4 + orientation and bridging	2 hrs 2x/wk, 8 per group	M-6 plus review IE-12; ER-14; DT-10	crime cycle, commitment to tx individual tx	yes	will send	support coaching, consultation team
Echo Glen Children's Center, Washington State	Eric Trupin; Brad Beach	female juvenile offenders, MHU and general population	none mentioned	none mentioned	5-added self-management	1-2x/wk 60-90 min, 8 per group	4 wks each	individual tx, Bmod, ed, voc, & rec programs	yes	?	consultation team, staff coaching
Twin Rivers Corrections Center-Washington State	Gerald Hover, Richard Packard	outpatient male sex offenders	therapist referred	Horvath's Working Alliance Inventory, Hanson Risk	4-standard	3x wk for 50 min., 9 per group	8 wks, 1 mo break, next module	not mentioned	no	no	only low risk offenders improved
Mondford Psychiatric Unit, Lubbock, TX	Chuck Giles	male forensic inpatients	actively suicidal	none mentioned	5-standard plus anger management	2 hrs 2x/wk, 8 per group	standard or "DBT Lite"	individual therapy	yes	no	modified to be more "inmate friendly", consultation team

Berzins & Trestman

Berzins & Trestman, Int J Forensic Mental Health 3(1): 95-105, 2004

DIALECTICAL BEHAVIOR THERAPY (DBT)

- Originally developed by Marsha Linehan
- Target: women diagnosed with Borderline Personality Disorder
- A manual driven intervention that attempts to reshape maladaptive cognitions and behaviors into a skill set conducive to appropriate pro-social behavior and effective interpersonal interactions
- Handouts & teaching procedures were modified for use in corrections

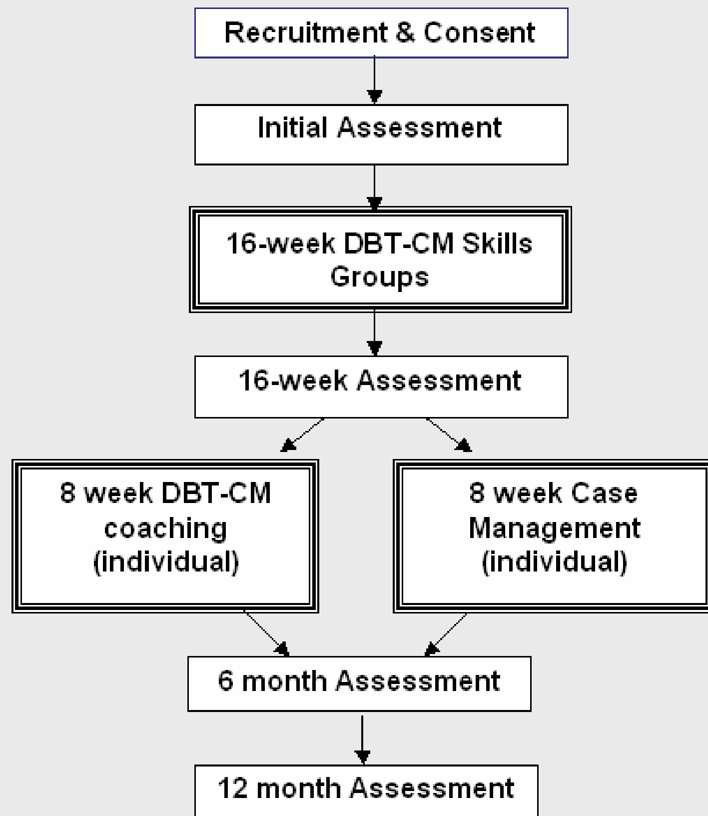
Class A Disciplinary Reports

	Tickets Received Before Group (12 Months)	Tickets Received During Group (4 Months)	Tickets Received After Group (6 Months)
Total	123	21	26
Average	0.32	0.13	0.14

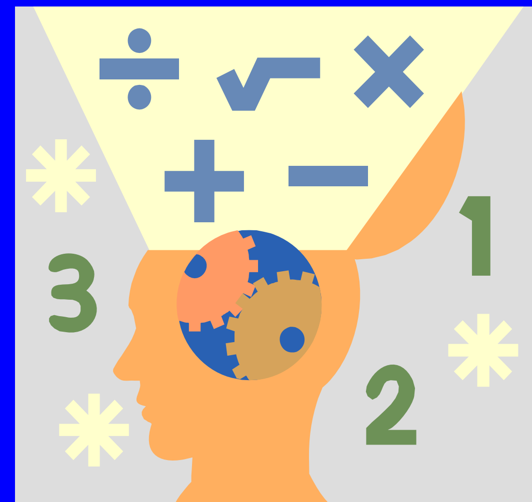
Trestman et al, NIJ Report, In Press

Testing Hypothesis 2:

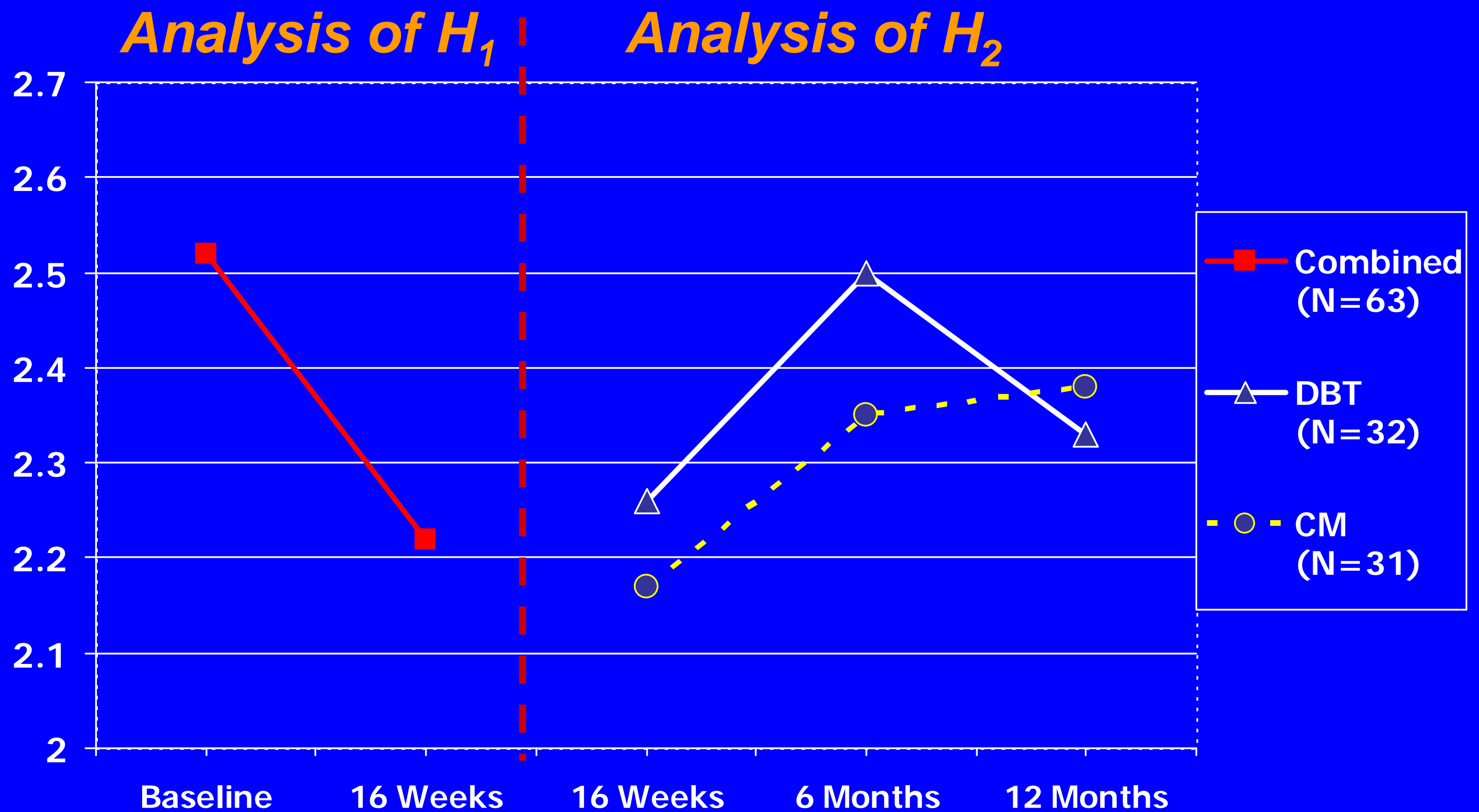
H_2: Participants randomly assigned to receive DBT-CM coaching will show greater reductions in aggression, impulsivity & psychopathology vs those receiving case management at the 6 month & 12 month follow-up.



***Statistical Analysis**: SAS for a Mixed Model, including time, DBT vs. CM, facility, & all interaction terms. Controlled for baseline difference between experimental conditions by including it as a covariate.*

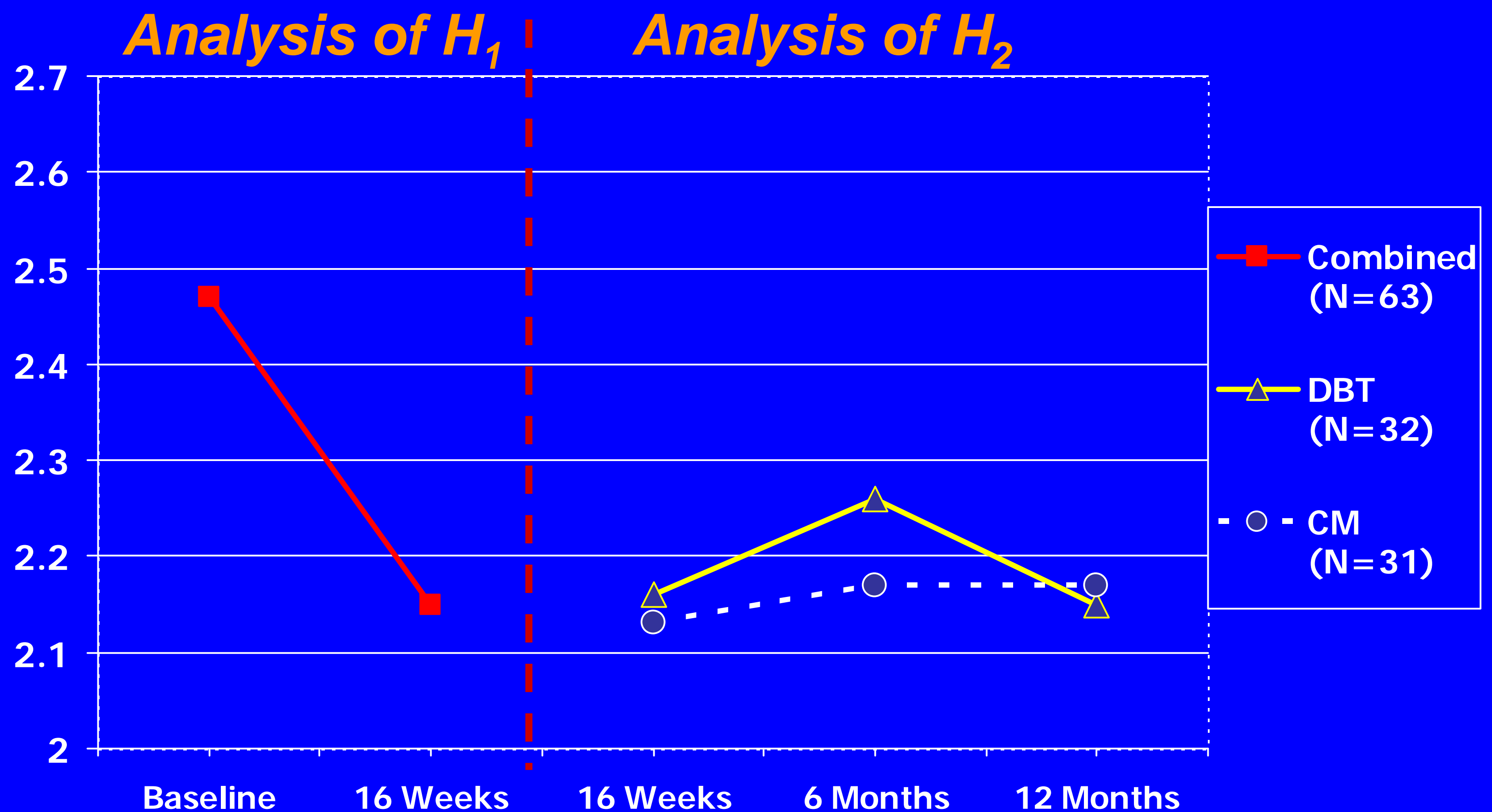


Anger (BPA)



Trestman et al, NIJ Report, In Press

Physical Aggression (BPA)



Trestman et al, NIJ Report, In Press

IMPLICATIONS

- Evolving understanding of pathophysiology
- Emerging psychopharmacologic and psychotherapeutic interventions
- Currently important to consider psychopharmacology as “enabling” psychotherapy- not as a replacement

Adaptations Required

- Culture Change for EBP
- Population Characteristics
- Staff Training and Supervision: Fidelity
- Physical Environment
- Data collection & management
- Funding- academic linkages

CONCLUSION

- Critical opportunity for clinical researchers to make an enormous difference
  - Address and treat serious disorders
  - Reach out to the most seriously disturbed of our patients
  - Develop, test and implement early interventions
  - Develop, test and implement ongoing treatment programs