



**Parkville Youth
Mental Health and
Wellbeing Service**

Neurodiversity and Addiction

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Enhanced Care



ACKNOWLEDGMENT OF COUNTRY

Parkville Youth Mental Health and Wellbeing Service (PYMHWS) respectfully acknowledges the Traditional Owners of the land, the Wadawurrung, Bunurong and Wurundjeri peoples.

Acknowledge the Gadigal people of the Eora Nation, the traditional owners of the land and waters upon which we stand.



My journey

A Survival Strategy

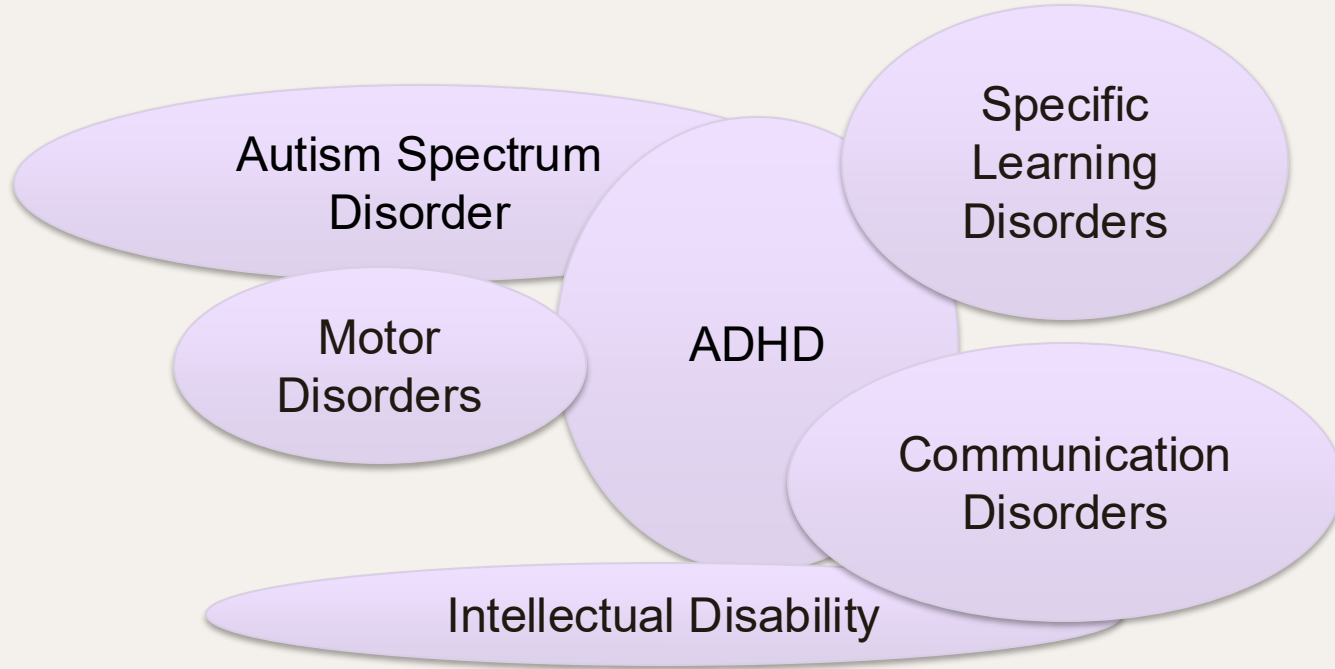
Let me tell you about John.

A young trans man with ADHD and PTSD, navigating grief, trauma, and a world that doesn't understand him. He didn't wake up one day and choose heroin. He chose relief.

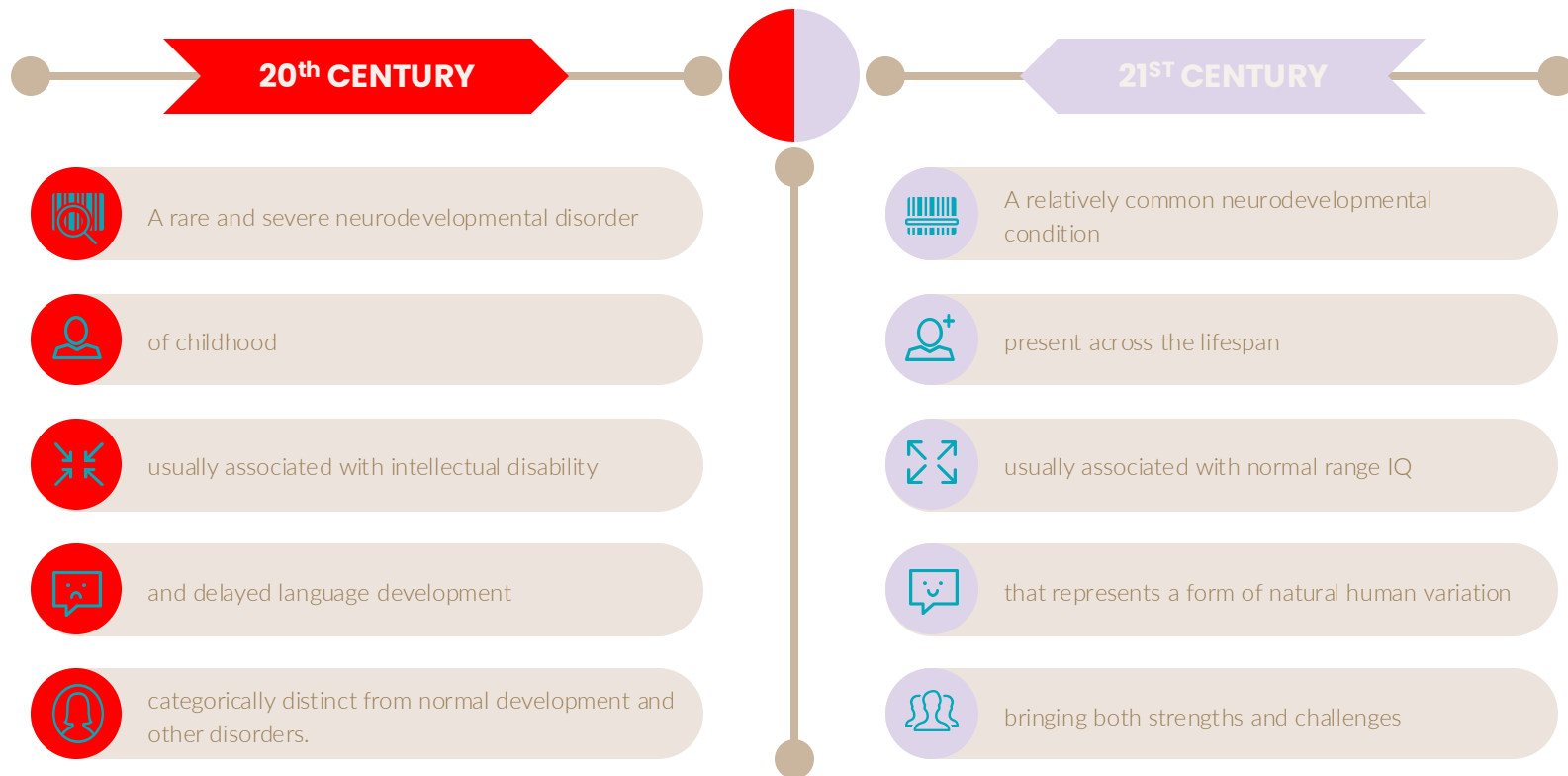
He chose something that made his brain feel manageable — even if just for a moment.

This is not uncommon.

Neurodevelopmental Disorders



Changing Concepts of Autism





**If you've met one person with autism, then
you have met one person with autism**

Article

The Worldwide Prevalence of ADHD: A Systematic Review and Metaregression Analysis

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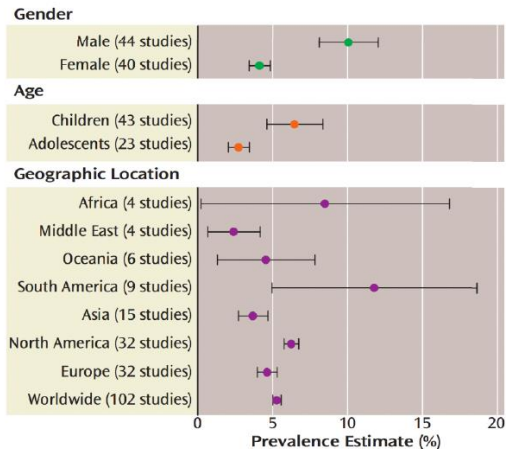
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Objectives: The worldwide prevalence estimates of attention deficit hyperactivity disorder (ADHD)/hyperkinetic disorder (HD) are highly heterogeneous. Presently, the reasons for this discrepancy remain unclear.

Methods: One hundred and two studies comprising 171,756 subjects from all world regions were included. The ADHD/HD worldwide-pooled prevalence was 5.29%. This estimate was associated with a 95% confidence interval (CI) of 4.65% to 5.93%.

FIGURE 2. ADHD/HD Pooled Prevalence According to Demographic Characteristics and Geographic Location



Attention deficit hyperactivity disorder is characterized by pervasive and impairing attention, hyperactivity, and impulsivity (1). The World Health Organization uses a different name—hyperkinetic disorder (2)—but lists similar operational criteria for the less of the name used. ADHD/HD is one of the most researched disorders in medicine, associated with a broad range of negative outcomes for affected subjects (4, 5) and with a serious impact on families and society (6), which characterizes it as a public health problem (7).

An understanding of the epidemiology of ADHD/HD may provide insight into its etiology as well as information for planning of funds for mental health services (8). Investigators from all regions of the world have made substantial efforts to define the prevalence of ADHD/HD. Several literature reviews have reported

ADHD is
common
5 – 7% in children
and adolescents
2.5% in adults

Adult outcomes of ADHD

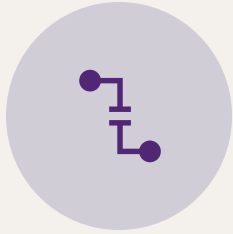
• Grade point average • Class rank (%) • Suspended during high school • Special education during high school • Retained in high school • Graduated high school • Enrolled in college • Currently full-time	• Number of full-time jobs • Ever fired from employment • Have trouble saving to pay bills	• Number of lifetime moves • Close friends now • Social problems • Number of sexual partners • School sexual partners • Sex • No. of sex
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High rates of crime

High rates of substance misuse

High rates of psychiatric disorder

The Hidden Link Between Neurodiversity and Addiction



This isn't a simple
cause-and-effect
relationship..



Brain Chemistry



Social Isolation



Coping
Mechanisms

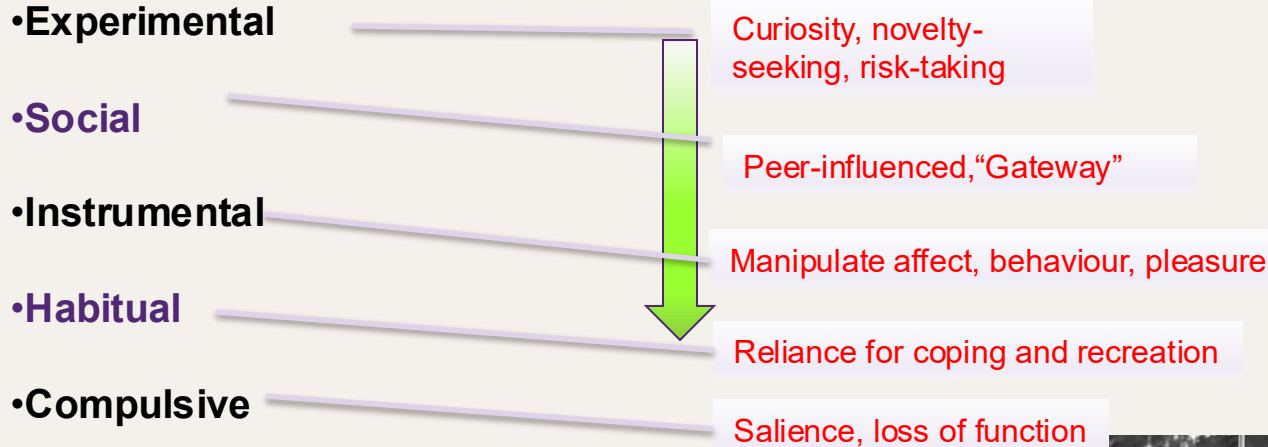
Developmental perspective on Addiction

Development of Addiction in Youth



Casey 2015; Volkow et al, 2016; Khantzian 1985; Wilens et al, 2004; Broman et al; 2020

Understanding Substance Use in Young People



↑ age
↑ substance use
↑ risk/severity of SUD

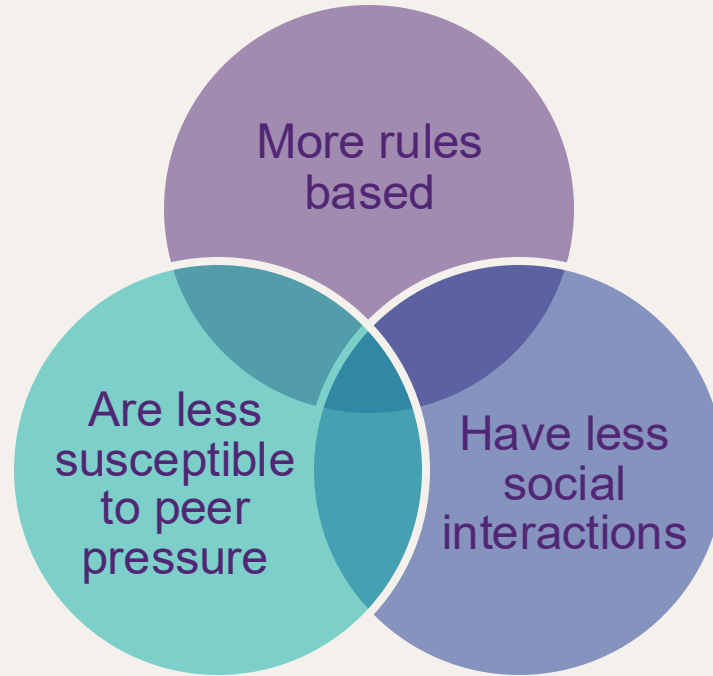


Nowinski et al, 1990

Substance use in Autism



Old view of Addiction in Autistic Individuals



Santos & Mijovic, 2006; Ramos et al, 2013

Autistic Individuals Are



Nine times more likely to report using recreational substances to manage behaviour



Three times more likely to report using recreational substances to manage mental health symptoms



More likely to report vulnerability associated with substance use

Biological factors in Autism and Risk of SUD

Differences in Dopamine reward system – blunted or atypical response.

Altered brain connectivity, particularly between areas governing impulse control and emotional processing.

Altered executive functions such as inhibitory control and decision-making.

Co-occurring Mental Health Conditions

High rates of comorbidity with disorders like anxiety and depression.

Co-occurring Autism and another condition leads to a higher likelihood of substance use.

Comorbid ADHD, significantly amplifies the risk for a substance use disorder in autistic individuals.



“I smoke pot to make my anxiety and autism go away. It's the only time I fell on the same wave length as everyone else”.

Self-Medication to Cope

Challenges of sensory processing, social interaction, and emotional regulation

Temporarily manage intense sensory overload

Reduce social anxiety

Numb emotional distress.

Quiet a chaotic environment or make a social gathering feel less overwhelming.

Allison et al., 2021



Masking

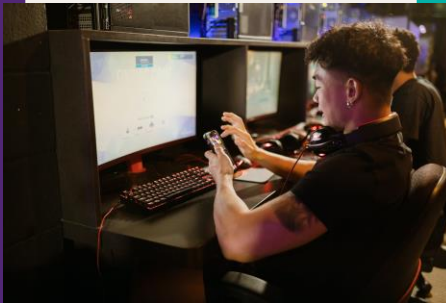
Difficulties with social interaction, which can lead to social isolation, loneliness, and a profound desire to "mask" or camouflage to fit in.

Substance use as a tool to lower social inhibitions, reduce awkwardness, and enable them to participate in social situations.

Feel more confident in a group setting or to mimic the behaviour of their peers. This drive to conform can make them particularly vulnerable to peer pressure.

Behavioral Addictions

Normal use

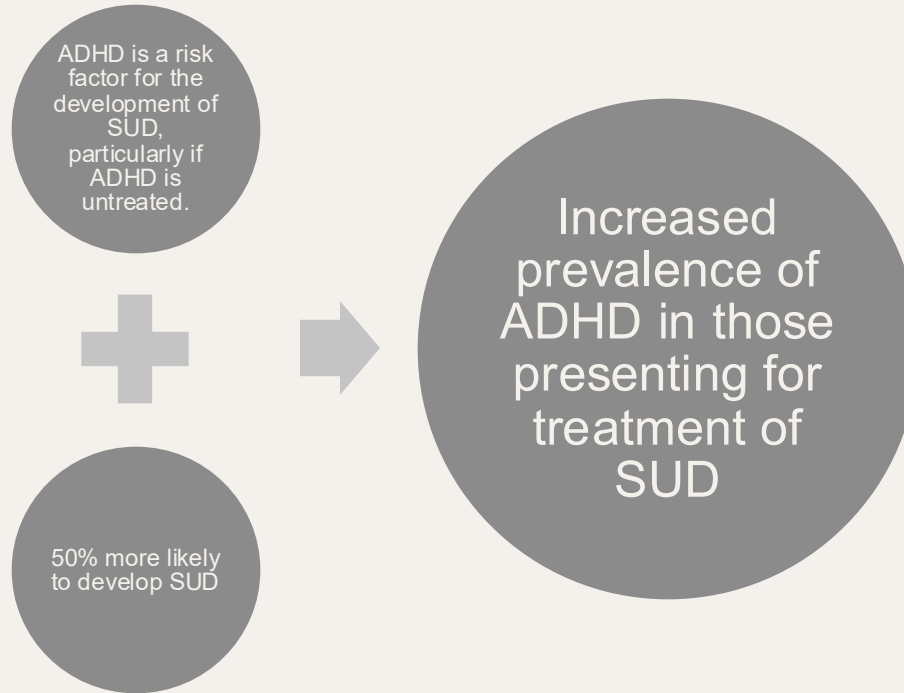


Problematic

Substance use in ADHD



ADHD and SUD



Groenman et al, 2013; Lee et al, 2011; van Emmerik-van Oortmerssen et al., 2012



Neurodevelopmental

ADHD symptoms starts in childhood, risk factors for early onset of substance use and the development of SUD.

Childhood ADHD has been associated with a small to moderate increased risk of SUD in adolescence or early adulthood

Treatment with stimulants for ADHD during childhood may reduce the risk of developing SUD.

Impulsivity and Brain Reward Pathway Dysfunction

Young people with ADHD often exhibit elevated levels of impulsivity.

ADHD leads to differences in the brain's reward pathways, particularly with the neurotransmitter dopamine.

Chronic under-stimulation, More risk-taking and novelty seeking behaviour.

Immediate, intense reward from substances particularly appealing.

Wilens & Vitulano, 2007; Volkow et al 2009

Co-occurring Mental Health Disorders

Anxiety, depression, and oppositional defiant disorder (ODD) frequently accompany ADHD.

Young people may use drugs or alcohol to manage the emotional distress, social anxiety, or anger.

Temporary sense of relief, but using to cope increases the risk of developing a substance use disorder.



Self-Medication of ADHD Symptoms

Stimulants (like cocaine or prescription drugs without a prescription) to improve focus and concentration.

Depressants (like alcohol or cannabis) to calm a hyperactive mind, reduce emotional dysregulation, or cope with sensory overload.

Wilens et al, 2004; Biederman et al, 1999

**How can we improve
our care**



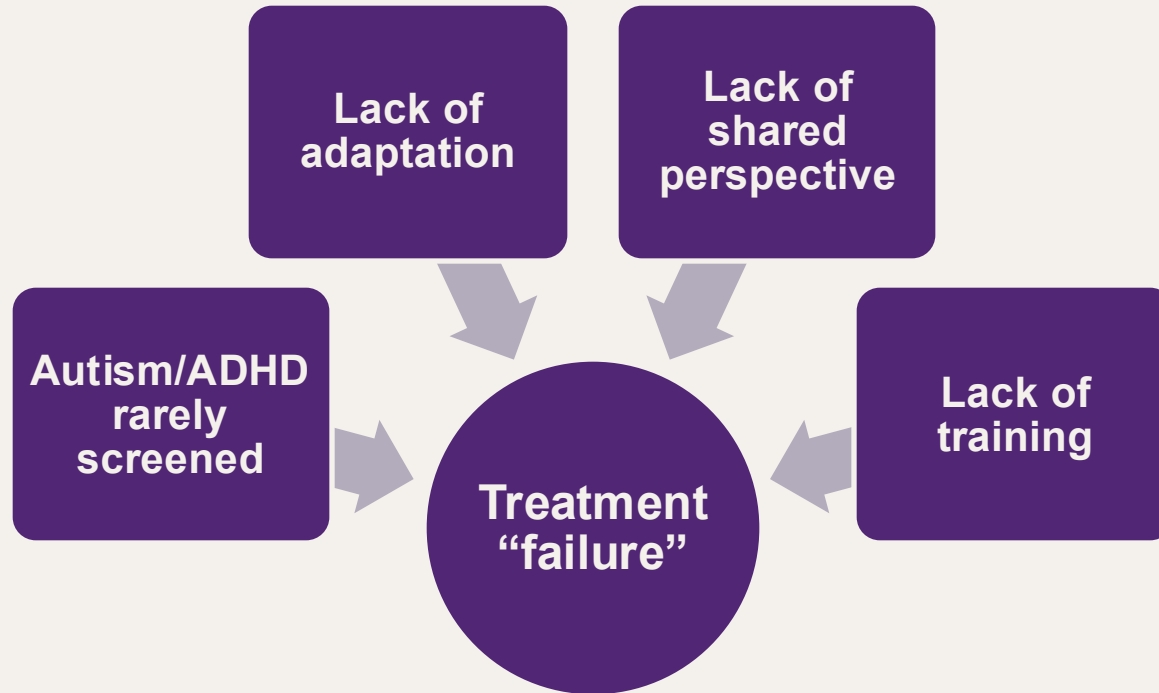
Rethinking Recovery

Recovery for neurodivergent individuals isn't just about abstinence. It's about understanding.

It's about asking:

- What unmet need was this substance fulfilling?
- What sensory, emotional, or cognitive challenges are being masked?
- What strengths are being overlooked?

Perceived Barriers to Treatment



Treatment Settings

Environment

Model of Treatment

Expectations



Personalisation



Attune to the individual, getting to know the person and working with the person's strengths and weaknesses



Communication – text, phone call, letters



Provide an environment that supports individual performance rather than group reliance

**How can we improve
our practice?**



Interventions for patients with ASD and SUD.

Therapy adjusted to the individual's level of functioning

Engaging the support of family and friends.

Incentives for abstinence,

Replace substance use with more rewarding activities and facilitating interpersonal relationships.

Therapeutic Engagement Tips

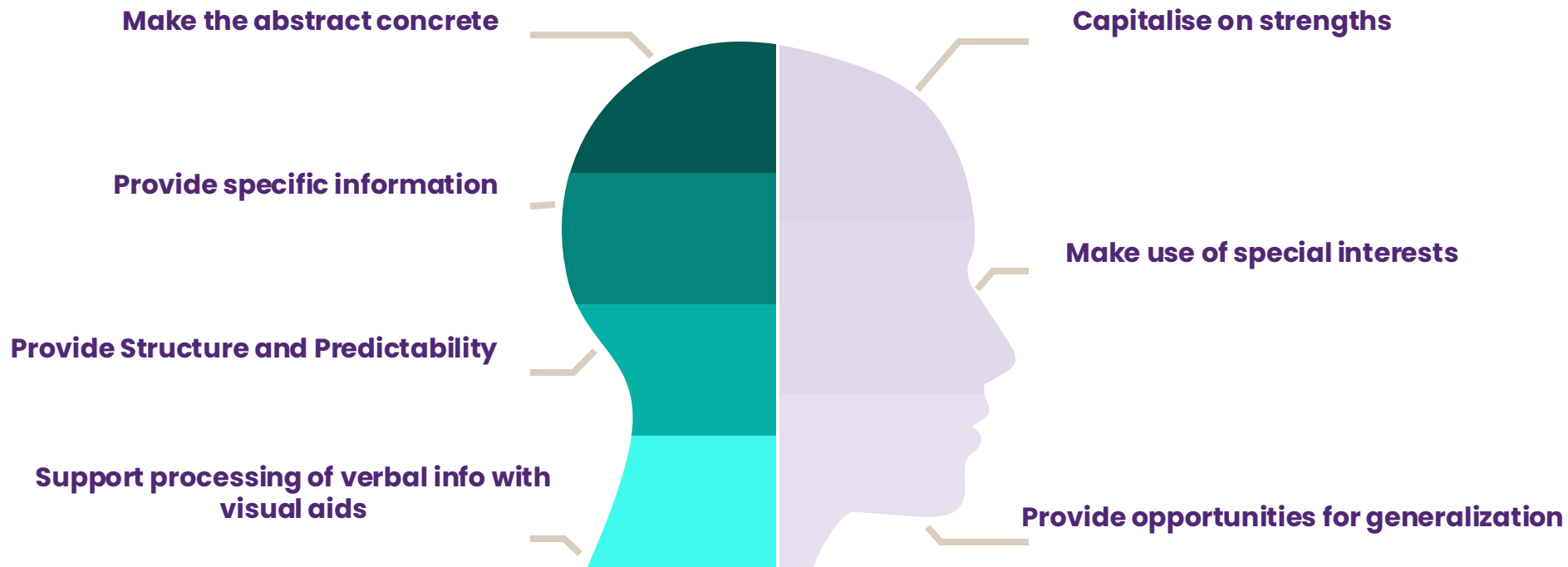
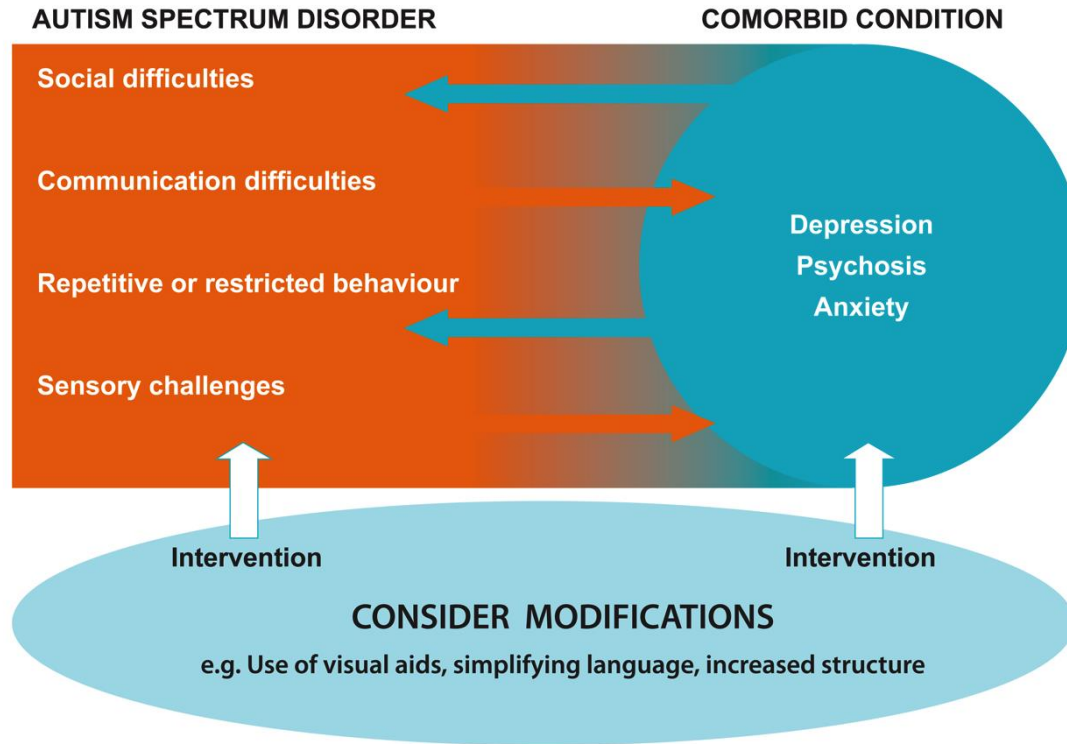
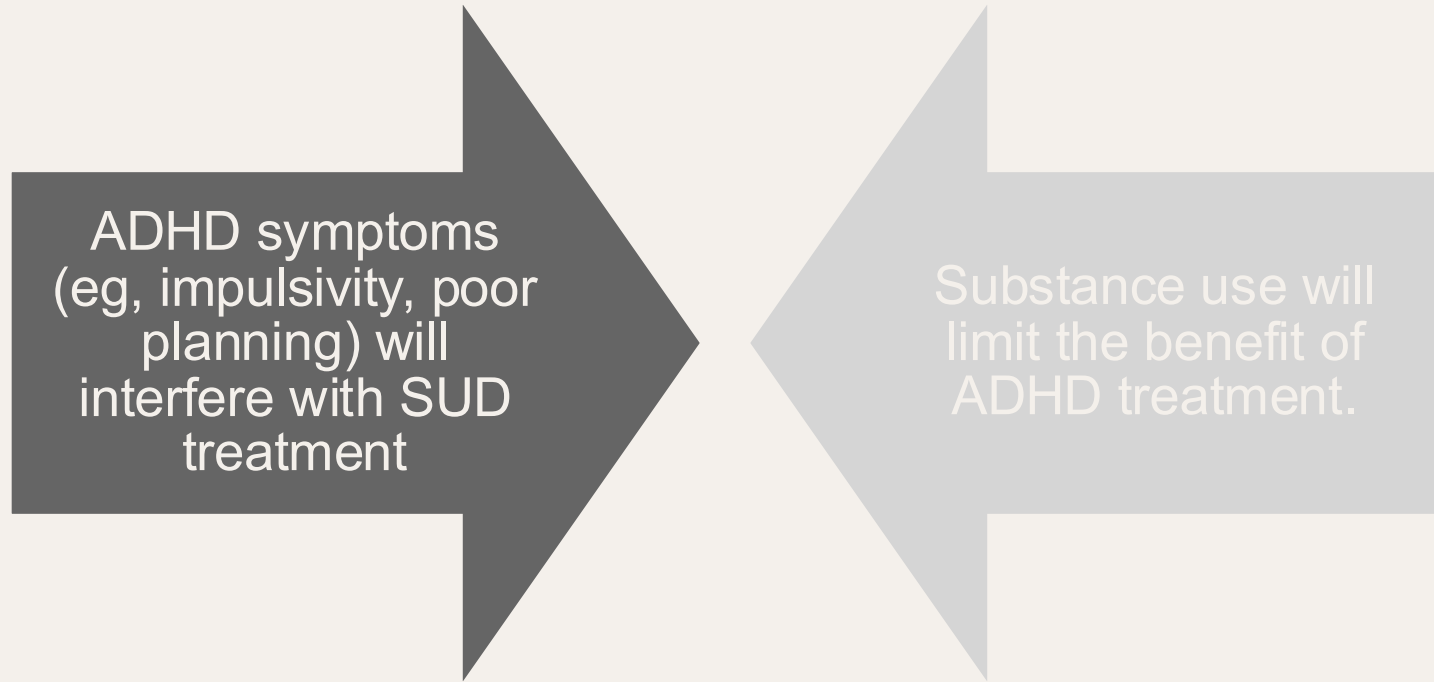


Figure 3. Intervention Principles



Clinical management of co occurrence w ADHD



Mariani + Levin, 2007

ADHD +SUD treatment

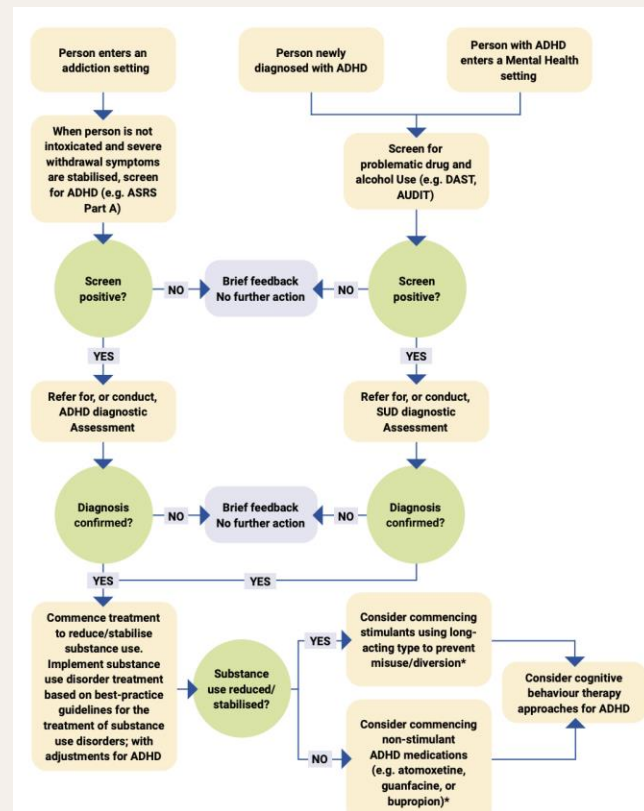
Multi Modal approach is preferred

Pharmacotherapy choice will depend on SUD

Reduced efficacy of stimulants in setting of SUD

Combine with behavioural interventions – CBT/MI/Contingency Management

Ozgen et al, 2020



Final thoughts





“Neurodiversity is not a diagnosis. It’s a dimension of humanity. Addiction is not a shameful secret — it’s a message”

“The opposite of addiction isn't sobriety – it's connection”

- Johann Hari



Thank You!

Acknowledgements

PYMHWS Youth Addiction and Dual Diagnosis

A/Prof Enrico Cementon

Dr Steve Leicester

Rebecca Morrison

PYMHWS Neurodevelopmental Team

Prof Dave Coghill

Dr Catherine Cox

Mindful

Prof Sandra Radovini