

## Clinician Briefing Presentation and Webcast

**Neurotech International Limited (ASX: NTI)** ("Neurotech" or "the Company"), a clinical-stage biopharmaceutical development company focused predominately on paediatric neurological disorders, today provides the investor presentation (attached) to accompany the investor webinar with Professor Russell Dale, Co-Principal Investigator for the NTI164 clinical trial in PANDAS/PANS and Professor of Paediatric Neurology, University of Sydney and Children's Hospital at Westmead. Professor Dale is an internationally recognised clinician and researcher in PANDAS/PANS research.

The education webinar will be held today at **11:00am AEST/ 9:00am AWST**.

This webinar can be viewed live via Zoom by registering via the link below.  
[https://us02web.zoom.us/webinar/register/WN\\_JwmLCHwSPiqfZbjYWv6vg](https://us02web.zoom.us/webinar/register/WN_JwmLCHwSPiqfZbjYWv6vg)

Following the presentation, attendees will have the opportunity to ask questions directly to Professor Dale during a moderated Q&A session. Investors are encouraged to submit questions ahead of the event directly to Matthew Wright, NWR Communications at [matt@nwrcommunications.com.au](mailto:matt@nwrcommunications.com.au). A recording of the webinar will be made available following the event.

### Authority

This announcement has been authorised for release by the Board of Neurotech International Limited.

### Investors/Media:

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### About Neurotech

**Neurotech International Limited (ASX:NTI)** is a clinical-stage biopharmaceutical development company focused predominately on paediatric neurological disorders. Neurotech has completed a Phase I/II clinical trial in Autism Spectrum Disorder (ASD), which demonstrated excellent safety and efficacy results at 28 days, 20 weeks and 52 weeks of treatment with NTI164. The Company commenced Phase II/III randomised, double-blind, placebo-controlled clinical trial in ASD in Q4 CY2022. Neurotech is also conducting additional Phase I/II trials in Paediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections (PANDAS) and Paediatric Acute-Onset Neuropsychiatric Syndrome (PANS), collectively PANDAS/PANS, along with Rett Syndrome and Cerebral Palsy during CY2023. Neurotech is also commercialising Mente, the world's first home therapy that is clinically proven to increase engagement and improve relaxation in autistic children with elevated Delta band brain activity.

For more information about Neurotech please visit <http://www.neurotechinternational.com>.



# Improving Lives



## PANDAS/PANS

## Clinician Education Seminar – Professor Dale

15 September 2023

# Dr Thomas Duthy Executive Director, Neurotech International



Neurotech  
Background



Today's Speaker  
Prof. Dale



PANDAS/PANS



NTI164 Phase  
I/II Clinical Trial



Q&A



# Disclaimer



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# Neurotech is a clinical-stage biopharmaceutical development company focused predominately on paediatric neurological disorders



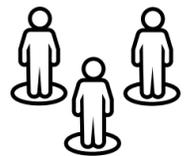
**NTI164 exclusive worldwide licence for neurological disorders**



**Patents Pending – Use, Composition**



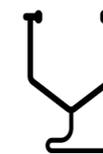
**Novel oral biopharmaceutical cannabinoid platform (NTI164)**



**Focus on Paediatric Patients**

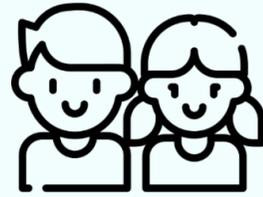


**Multiple Phase I/II and Phase II/III Clinical Trials**

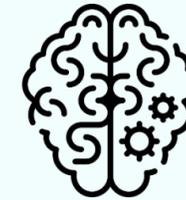


**Mente device & therapy for ASD**

# Neurotech Four Core Strategies



**Focus on Paediatric Patients**



**Focus On Rare Neurological Disorders with Neuroinflammation**



**Focus on Partnering with Key Opinion Leaders / Clinicians**



**Focus On Drug Product Development**

# Clinical Pipeline – 2023

## Pre-Clinical

**NTI164**  
Combination Therapies  
Prednisone, Diclofenac, Other

**Other Licensed  
Strains**

## Phase I/II

**NTI164**  
Cerebral Palsy

**NTI164**  
PANDAS / PANS

**NTI164**  
ASD  
(54 week open label extension)

**NTI164**  
Rett Syndrome

## Phase III/III

**NTI164**  
ASD

### Pipeline (2020/1)

**NTI164**  
Combination Therapies  
Prednisone, Diclofenac, Other

**NTI164**  
Neuronal Cell Assays

**Other Licensed Strains**

# Today's Speaker – Professor Russell Dale

- Professor of Paediatric Neurology, University of Sydney
- Petre Professor of Paediatric Neurology Research Head, Kids Neuroscience Centre, Children's Hospital at Westmead
- Academic Leader (Research), Specialty of Child and Adolescent Health, Faculty of Medicine and Health, University of Sydney
- Clinical Director, Kids Neuroscience Centre
- Clinical and research aims are to identify reversible causes of brain injury, and to treat them to minimise neurological disability
- Laboratory interests are improving the repertoire of tests available to clinicians to help diagnose brain inflammation, which include autoantibody and other immune biomarkers in blood and cerebrospinal fluid
- Over 355 peer reviewed publications, internationally recognised expert in neuroinflammation including PANDAS/PANS
- Principal Investigator for the NTI164 Phase I/II trial in children with PANDAS/PANS



# Professor Russell Dale



# About PANDAS / PANS

## What is it?

Paediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections (PANDAS) and Paediatric Acute-Onset Neuropsychiatric Syndrome (PANS) – PANDAS is a subgroup of PANS

PANS and PANDAS are severe forms of obsessive-compulsive disorder (OCD) that appear suddenly (acute onset) in young children, accompanied by other confusing and distressing symptoms

World Health Organisation recognition within the International Classification of Diseases (ICD-11) for the first time (2022)

## Cause & Treatment

Postinfectious neuroinflammatory disease that involves the basal ganglia and patients have obsessive-compulsive disorder as a major manifestation<sup>1</sup>

Treatment interventions treating the symptoms, treating the source of inflammation, and treating disturbances of the immune system

Diagnosis is by exclusion (i.e., other medical issues ruled out first)



6 Important Things You Should Know About  
**PANS/PANDAS**

One moment you have a healthy, carefree child. Then, seemingly overnight, your child wakes up a different person.

They are suddenly:

- Having severe mood swings
- Anxious
- Aggressive
- Compulsively obsessing
- Restricting their eating

If this sounds familiar, your child may have Pediatric Acute-onset Neuropsychiatric Syndrome (**PANS**) or Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Disease (**PANDAS**).

Source: PACE Foundation

1. <https://pubmed.ncbi.nlm.nih.gov/36740356/>

# About PANDAS / PANS

## Key questions

PANDAS/PANS has generated some controversy

The 'clinical entity' is not in question- some children present with infection triggered acute onset OCD, eating restriction and separation anxiety

The question is 'what is it?'- routine investigations often fail to find an abnormality (MRI brain, cerebrospinal fluid, routine blood tests)- therefore separating PANS/PANDAS from 'encephalitis'

So what is it? Disease entities only gain traction with the discovery or biomarkers that define disease mechanisms

## Biomarkers

To date there is no reproducible PANS/PANDAS biomarker

We hypothesise that PANS/PANDAS is an example of 'epigenetic neuroimmunology' and PANS/PANDAS may be a phenotype of environmentally induced (epigenetic) neuroimmune dysregulation

We hypothesise that epigenetic and anti-inflammatory drugs may be important in the future of neuroscience



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Source: PACE Foundation

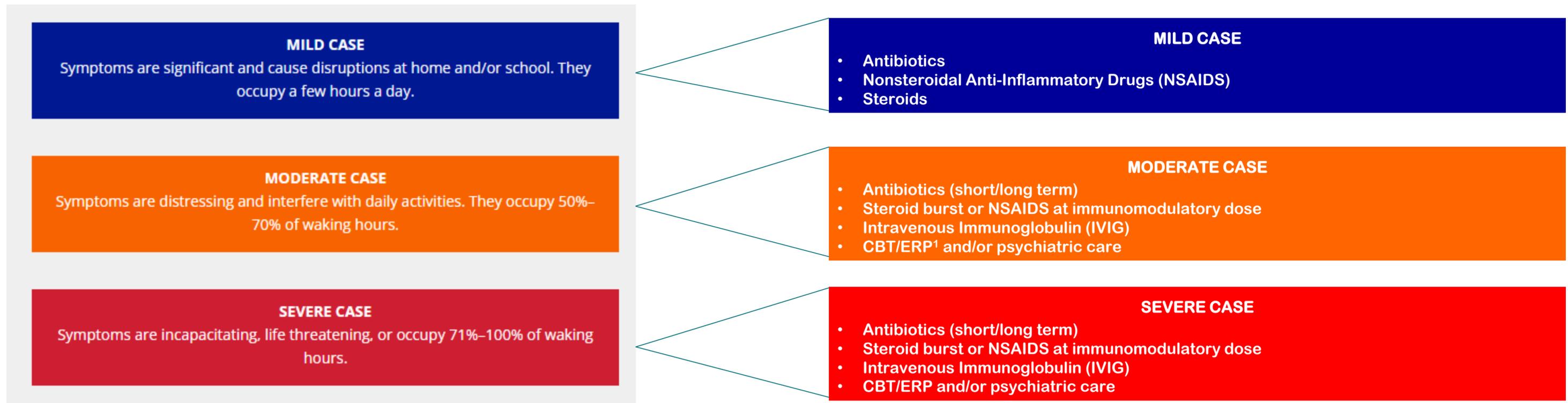
# Recognised Diagnostic & Treatment Guidelines

## Diagnostic Criteria (2015)

The PANS/PANDAS Research Consortium, in conjunction with the NIMH, issued a consensus statement regarding diagnosing PANS/PANDAS in the 2015 edition of the *Journal of Child and Adolescent Psychopharmacology*

## Treatment (2017)

The PANS/PANDAS Research Consortium, consisting over 30 experts and the NIMH, published new treatment recommendations for PANS/PANDAS in the 2017 *Journal of Child and Adolescent Psychopharmacology*



**There are no FDA/EMA approved drug therapies for PANDAS/PANS**  
New Clinical Trials and Treatments Urgently Needed

# Selecting NTI164 for PANDAS/PANS

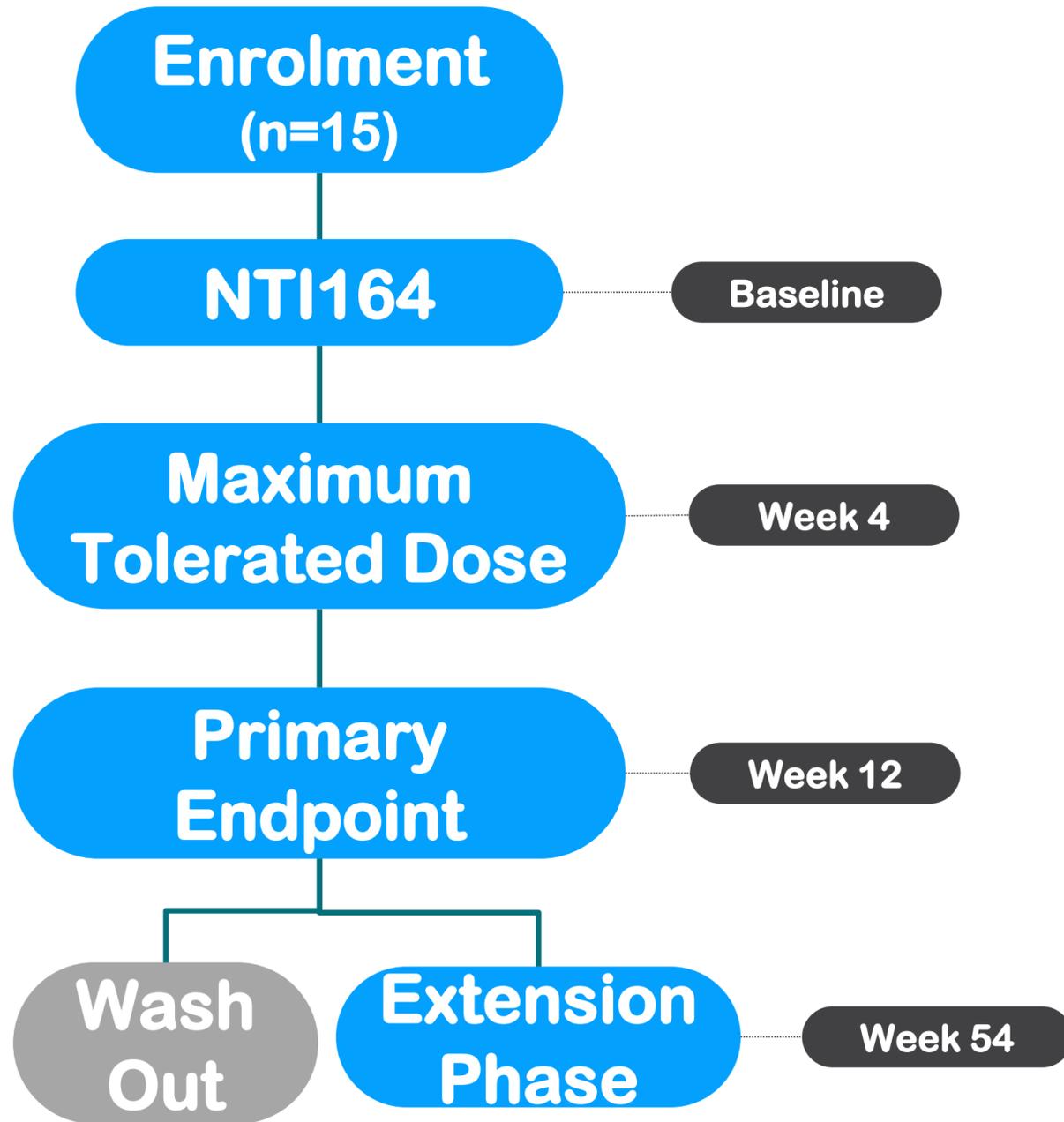
- **Preclinical and clinical studies to date have shown that NTI164 is a powerful neuro-anti-inflammatory modulator, can suppress a wide range of inflammatory cytokines, and improves neuronal cell viability**
- **Neuroinflammation is hypothesised to be relevant to PANDAS/PANS**
- **NTI164 exhibited excellent safety and tolerability in autism patients over 52 weeks of daily oral treatment**
- **At Westmead I have ~30 PANDAS/PANS children under care; the ability to investigate NTI164 alongside molecular genomic analysis, noting its effects to date in autism, was a driver to initiate a Phase I/II clinical trial. We have an embedded program of epigenetic neuroimmunology research using single cell RNA sequencing and proteomics which can identify cellular dysregulation and determine the effects of treatments in patients (ex vivo)**

# PANDAS/PANS Phase I/II Trial

*“We encourage clinicians, teachers, providers, extended family, and friends to understand the human aspects of PANDAS/PANS as symptoms are often so distressing, causing high levels of caregiver burden.”<sup>1</sup>*



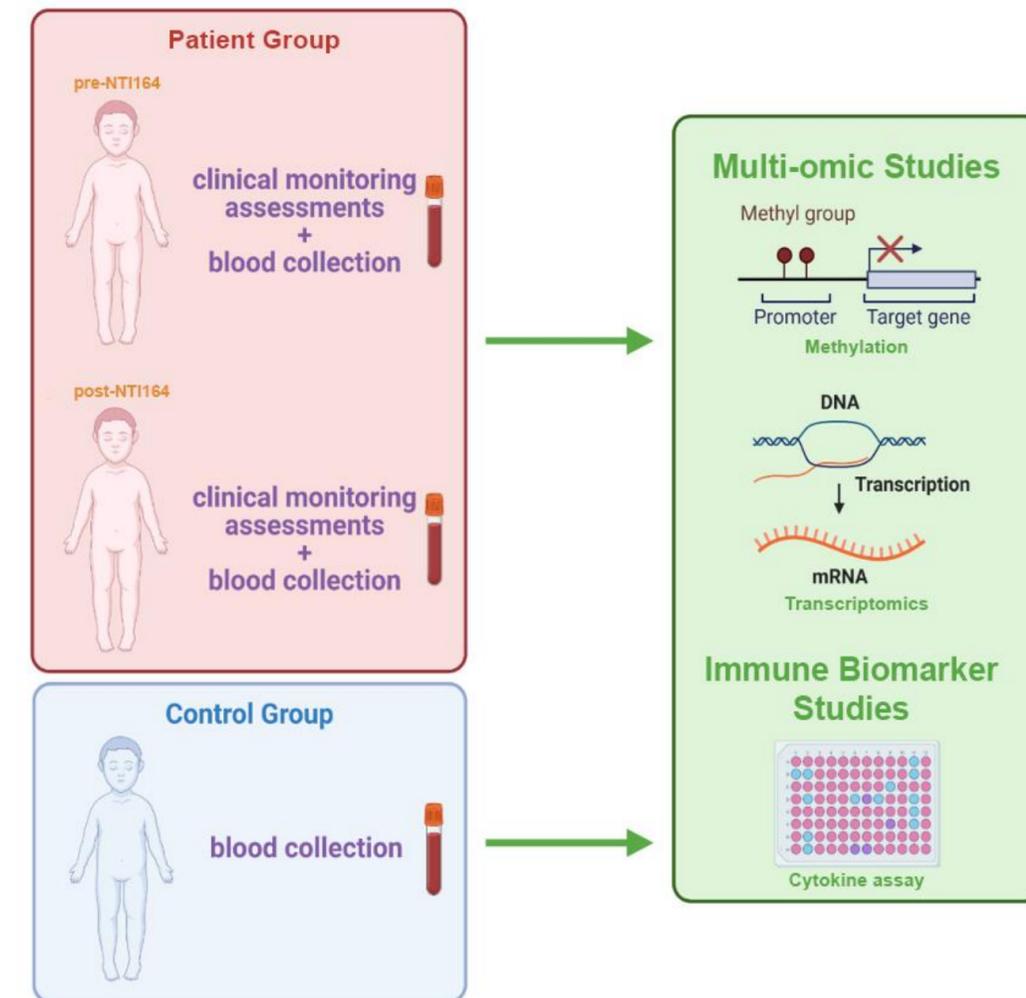
# NTI164 PANDAS/PANS Phase I/II - Trial



- Open-label, patients must fulfil PANS criteria
- **Primary Endpoints**
  - Revised Children’s Anxiety and Depression Scale-Parent-rated (RCADS-P) score
  - Clinical Global Impression-Severity (CGI-S)
  - Clinical Global Impression-Improvement (CGI-I)
- **Secondary Endpoints**
  - Yale Global Tic Severity Scale (YGTSS)
  - Children’s Yale-Brown Obsessive-Compulsive Scale
  - Conners Scale (ADHD)
  - Unique blood transcriptomic and/or epigenetic signature
- **Safety**

# Genomic Analysis

- Powerful modern genomic analysis will provide evidence of molecular changes from baseline measures and after 12 weeks of treatment with NTI164 – first time ever collected in a prospective interventional trial in PANDAS/PANS
- Thesis is that PANDAS/PANS is an epigenetic gene regulation syndrome affecting the peripheral immune system and brain. Cannabis has recognised epigenetic effects (gene regulation, methylation) and anti-inflammatory effects
- The trial will identify patients who ‘respond’ and benefit to NTI164 and correlate this with biological evidence of effect
- Hypothesis is that NTI164 will be anti-inflammatory and affect gene regulation and will be able to define this using this multi-omic approach.



# Summary

- Clinical program is progressing well into the extension phase
- All patients have voluntarily elected to move to the extension phase of the trial to 52 weeks of treatment
- HREC approval to treat children who turned 18 during the treatment/extension phase
- If positive, would represent the first ever broad-spectrum cannabinoid therapy to show an effect in this population
- Top line results to be available in late September
- Major market need for new safe and effective therapies

# Question and Answer Session

- To ask a question select 'ask a question' at the bottom of the Zoom meeting
- To ask a question select 'Chat' Tab at the bottom of the Zoom meeting and type your question and hit the Enter key
- In the interest of time, some questions may be pooled together by the moderator
- Any outstanding questions can be sent to [td@neurotechinternational.com](mailto:td@neurotechinternational.com) where answers will be provided



**Neurotech**  
International

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\*This presentation has been authorised by the Board of Neurotech International Limited

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[www.mentetech.com](http://www.mentetech.com)

Neurotech International Limited (ASX: NTI)