Neuropsychotherapy in Australia

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Neuropsychotherapy Workshops 2013 Last two pages
Welcome to our last edition for 2012. This year has been an exciting year for Neuropsychotherapy with some significant changes happening. Our newsletter has evolved to a Journal and our readership has increased to over 3000. We have big plans for the Journal to develop even further. I have recently been invited to join the editorial Board of The Neuropsychotherapist with world renowned scholars like:

- Allan Schore, Editor Norton Series and Professor in Psychiatry, UCLA, USA;
- Louis Cozolino Professor in Psychology, Pepperdine University, USA;
- Georg Northoff, Canada Research Chair Mind, Brain Imaging, Professor University of Ottawa, Canada and Hangzhou, China;
- Todd Feinberg, Professor of Clinical Neurology, Albert Einstein College of Medicine and Malek Bajbouj Professor of Psychiatry and Affective Neuroscience, Berlin Germany.

This is indeed a huge privilege. We look forward to working together to enhance the field of Neuroscience and especially Neuropsychotherapy. My role will be that of Department editor of the Applied Neuropsychotherapy section. Four of the articles in past editions of our Journal and Newsletter have already been published on the Website – please visit the website on [http://www.neuropsychotherapist.com](http://www.neuropsychotherapist.com). We look forward to establishing closer ties with The Neuropsychotherapist in future.

Workshops 2012

Our workshops for 2012 are coming to an end – only three one day workshops remain. These workshops are all one day workshops: Focused Neuropsychotherapy – Applied Strategies for the Treatment of Depression. They are scheduled for the 1st December in Canberra, 8th December in Brisbane and 15th December in Perth. There are limited spots available – more information on the last page of the journal.

We have received a number of invitations from APS regional areas to deliver Neuropsychotherapy workshops – we recently ran workshops for the APS divisions in the Mornington Peninsula and Ballarat with workshops scheduled for Kalgoorlie/Esperance; Geelong, Bathurst and another in the Mornington Peninsula in the New Year.

Teaching and Research

The teaching of Neuropsychotherapy at The University of Queensland is taking shape. On the research front we have four PhD students and six master Students involved in Neuropsychotherapy research projects. I am also involved in research for online Neuropsychotherapy intervention delivery to enhance outcomes for clients as well as strengthen clinicians work with their clients.

Publications

I am progressing well toward publications in this field. A book on neuroscience and leadership is well on its way as well as publications on the principles of Neuropsychotherapy.

This edition – Childhood trauma and Rural and Remote Environments

This edition focuses on Childhood trauma with special reference to rural and remote environments. It is a paper that was delivered earlier this month at the 4th Rural and Remote Mental Health Conference in Adelaide. It focuses on the unique challenges to provide early intervention in local communities and the effects when basic needs are compromised or violated.

Enjoy the read

Pieter Rossouw

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Childhood Trauma and Neural Development. Indicators for Interventions with Special Reference to Rural and remote Environments

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Introduction

Current Neurobiological research indicates that most mental illnesses begin earlier in life than was previously believed (Insel, Fenton 2005). An alarming epidemiological study of 10,000 adolescents in the USA indicates that one in every four to five youths meets the criteria of a mental disorder with severe impairment across the lifetime (Merikangas et. al. 2010). The study indicates the need for strategies that are based on prevention and early intervention.

Studies indicate the need for enhancing neural development by decreasing exposure to unhelpful stressors that up regulate the HPA (hypothalamus-pituitary-adrenal) axis (Schonkoff, 2011.) Schonkoff and colleagues (2011) indicate that interventions that enhance executive function and self-regulation and enhance the abilities of vulnerable mothers (beginning as early as pregnancy), offer promising markers to protect the developing brains of their children from detrimental neural development.

Neural development and attachment

The attachment relationship is central in the development of early intervention programs (Schore & Schore 2008). The neurobiological basis of John Bowlby’s attachment theory (Bowlby 1969,1973,1980,1988) points towards its biological nature – the structural connectivity of the right hemisphere, limbic
connectivity and neural facilitation of the implicit self (Schore 2008). Whereas Bowlby focused on the behavioural and cognitive development in early childhood, modern attachment theory focuses on neural connectivity. Down regulation of limbic alertness plays a vital role in the development of a safe, secure attachment relationship whereas unstable patterns (that is unstable emotional or physical attachment) lead to insecure, ambivalent or disorganised attachment.

These attachment patterns tend to stabilise into long term patterns of functionality or disfunctionality depending on the initial trajectory with an alarming stability of seventy percent twenty years post initial assessment (Waters et al. 2000). This study is in line with the trend projected by the study of Merikongas 2010.

Violations of the basic human needs for attachment and control (Epstein 1993; Grawe 2007), lead to the onset of upregulated limbic alertness, down regulation of cortical neural sprouting, and decreased right frontal cortical development – the key risk factors for the onset of mental illness. It is a well-established fact that the right frontal cortex is in a critical growth period from the last trimester of pregnancy to ten months post birth and in a secondary growth period from ten months to thirty six months (Schore 2012). Genetic factors are expressed, through the interaction with the environment (experiences) and long term patterns of response to environmental stimuli are facilitated during this time in neural patterns. A secure attachment provides an enriched environment to facilitate significant resilience against the expression of genetic risk. Animal studies by Shen and Battersby clearly indicated the protection against expression of genetic risk through enriched environments (Shen & Battersby 2000). Programs to enhance secure attachments and the down regulation of stress responses are highly indicated to reduce the risk and onset of mental illness.

**Childhood trauma and neural growth**

Childhood trauma violates the basic needs of attachment and control. Abuse (physical and/or emotional) up regulates the survival response and inhibits frontal cortical sprouting. Early interventions to address these needs are highly indicated. Effective programs need to be based on two key principles of neural anatomy and neural development:

- The principle that the brain develops from the bottom to the top.
  - The first phase of neural development involves the formation of the primitive brain – the brainstem, pons and the cerebellum (the survival systems). Large numbers of precursor (stem) cells activate the production of specific neurons in targeted areas (up to 250,000 per minute).
  - The second phase of neural development involves the development of the paleomammalian brain - limbic structures – thalamus, amygdala, hypothalamus, hippocampus and basal ganglia (the stress and emotional response systems)
  - The third phase of neural development is the development of the cortical regions – the neocortex (the executive control systems).
Second: the principle of neural development and proliferation. The principle of neural development indicates that the brain is not fully developed at birth.

The first area of the brain to fully develop is the brainstem and then the lower part of the midbrain. These areas control bodily functions necessary for life – sometimes referred to as the autonomic functions. At birth, these lower functions are fully developed and functional facilitating basic survival responses: breathing, eating, sleeping, seeing, hearing, smelling, making noise, feeling sensations and recognising people. These are crucial functions – all needed for basic survival. Violation of any of these functions will compromise survival.

This is the area that MacLean named the primitive / reptilian brain – a capability shared with all living creatures. This neurological ability is crucial in the quest to understand mental well-being and disorders. Recent findings in neuroscience indicated that synaptic connections (synaptic potentials) form the basis of what constitutes “an individual” and when neural connections change, the neural networks change resulting in the individual “changing” – emotional, cognitive and behavioural changes. These changes facilitate healthy development (given safe, enriched environments) or pathology (in situations where there are violations of basic needs).

The second region that develops in the prenatal brain is the region that involves the structures on top of the brainstem and lower midbrain – the areas in the upper midbrain section. McLean coined the term “limbic” structures (MacLean 1990) – the thalamus (chamber), the amygdala (almond) the hypothalamus (below-chamber) and the hippocampus (sea horse). These structures evolve on each side of the brain as it begins to development towards the two hemispheres in the cortical regions.

The limbic areas are fully developed at birth but do not function optimally (in comparison to the brainstem areas that are fully operational at birth. These areas need environmental interaction to assist with the activation process. During the first ten to twelve months of the newborn’s life most of the expressions of these functions occur. Input from the environment shapes the limbic structures.

The infant brain comprises of around one hundred billion neurons. Each neuron has up to ten thousand synapses – resulting in a capacity of one trillion connections.

During the first ten months post birth synaptogenesis is facilitated at blistering pace. By year three the young brain has up to three trillion neural connections. Then the process turns around – the neural connection reduces at an even more blistering pace – millions of connections stop connecting every minute – reducing the connections back to around one trillion within a few years. And whilst this reduction is happening the brain is still developing through the process of neural pruning as the neural network becomes stronger. Effective pruning is vital for effective growth but it can only activate effectively in a down regulated limbic system - a healthy supportive and rich environment.

Violation of the safe environment – any threat to basic safety, or basic needs, also leads (among other things) to changes in the synaptic connections – however these changes result in closed neural systems of protection – facilitated by overproduction of stress hormones adreno-corticotrophin hormone, adrenalin and cortisol which push the brain into constant hyper alertness and
closed neural firing – altering the networks of healthy neural patterns.

The third section of neural development brain that develops involves the upper region of the neural system - the cortex. This region is greatly undeveloped at birth – making it most susceptible for signals from its environment. A good, supportive healthy enriched environment (where the basic needs of secure attachment, control, development of sense of self, and pleasure maximization) is essential for the brain to develop connections and networks that support well-being. Violation of any of these needs causes major disruption in the chemical production, the neural connectivity, neural plasticity, and ultimately the neural networks (Kandel et.al 2013).

The implications are significant in terms of our understanding of the development of wellbeing, and the pathogenesis of mental disorders and trauma and even more important when we consider strategies to address these issues (Van Eekelen et.al. 2011).

**Bottom up development**

The development of the brain from the bottom to the top also indicates the neural pathway for the activation of distress signals. Distress signals follow a particular pattern in the excitation and inhibition of neural connections. These activities lead to changes in cortical blood flow from the upper neural (cortical) regions to the deeper neural regions to ensure effective ability to maximise the survival response. Over activation of this survival mechanism leads to inhibition of neural sprouting to the cortical areas. Ongoing activation of this pattern has an inverse relationship with long term neural sprouting and proliferation (Rossouw 2012). In severe cases of violation atrophy occurs in key limbic areas (especially the hippocampus), and cortical regions (anterior cingulate and subgenual areas of the pre frontal cortex) as result the ability of the individual to manage even low intensity stress is greatly reduced and cognitive and especially emotional development significantly inhibited (Van Der Kolk, Burbridge & Susiki 1997; Drevets 2001; Schore 2012; Rossouw 2012b).

Without effective down regulation of limbic alertness (triggered by stress factors and violations of basic needs), neural sprouting is inhibited (Kandel 2006).

**Implications for interventions – rural and remote areas**

The implications for service delivery are significant. Effective delivery of early interventions is required to assess, identify and address violations of basic needs (especially the needs for safety and control) are indicated. Effective service delivery, to enhance neural development has to be a collaborative activity between mental health services and attachment structures (parental systems). Many rural communities have collective sense of suffering due to current and historical traumas such as Aboriginal communities affected by removal of children. These painful memories are triggered by intervening agencies attempting to assist in cases of need – especially when assistance is not community
based but linked to services that are provided outside of local areas.

Unfortunately the history of service delivery in rural and remote Australia (and more specifically our indigenous communities) shows little understanding of the implications of these neural principles. When provision of safety became a priority, without understanding the need for attachment and control, children were removed not only from the immediate area of risk but also from the whole community. These removals from community may have provided safety but could not effectively down regulate the stress/fear/control response. Further, removal from a community disempowers the community to provide care and enhances community pathology. This does not only have historical relevance as there are current cases under tribunal investigation that involve removal of young children from highly disenfranchised Aboriginal communities in far north Queensland. The preliminary findings of research at the University of Queensland coincides with the study at Edith Cowen University and shows that Aboriginal community responses have been undermined as a result of colonialisation and the impact of western culture (Hovane 2012). Service delivery has mostly happened outside the communities and not in close collaboration with communities resulting in increased community disempowerment and enhancing the risk of pathology.

Service delivery to maximise neural growth needs to occur in the close proximity of the social network (community) to maximise a sense of attachment and control to facilitate healing and empowerment. Children living in rural and remote areas face significant challenges when they are in need of interventions. All research clearly indicates the need for early intervention to minimise the development of unhelpful neural patterns. But early diagnosis and/or intervention is often lacking in rural and remote areas. Localised services are often not available. This leads to interventions that may compromise the basic needs of developing children resulting in higher presentation of uncontrollable incongruence. The net result is the reduced opportunity to maximise neural sprouting, enhanced stress response activation, and long term frontal cortical deficits – resilience to HPA activation, effective emotional and personality development, high level of cognitive integration and approach behavioural patterns.

Preventative programs to enhance parental awareness of secure attachment, control maximization, neural development, nutrition, limbic regulation, and frontal cortical activation to enhance resilience need to be facilitated.

Practical strategies to maximise neural sprouting (sleep hygiene, nutrition, exercise, reduced substance abuse etc.) need to be provided in a safe, trusting environment to reduce the risk of trans-generational pathology and enhance genetic expressions towards strong safe, supportive and well communities.

References

• Shen, S., Battersby, S., et.al. 2000. Refined mapping of the human serotonin transporter (SLC6A4) gene within 17q11 adjacent to the CPD and NF1 genes. European Journal of Human Genetics. 8: 75-78.
Neuropsychotherapy in Australia  
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Neuropsychotherapy  
Neuropsychotherapy is an exciting science, not least because of the recognition that significant changes occur for clients in neural firing and structure as a result of talking therapies. Neuropsychotherapy is the “language” used in the interaction between the clinician and the client to guide the client in the process of restructuring the brain towards higher levels of functioning and well-being. It uses information from neurosciences to assist clients suffering from a wide range of biological, psychological and social challenges to apply strategies to down regulate unhelpful neural stress responses and up regulate neural activation towards neural change. Understanding the neurophysiology of these disorders and activation patterns of neural pathways as well as discussing practical applications, assist clinicians greatly to apply more effective strategies to treat depression, anxiety and trauma.

2 DAY WORKSHOPS

THE BRAIN & ANXIETY:  Neurobiological information as Psychotherapeutic Tool  Continuing Professional Development Hours - 12 hours specialised training  
Sydney 16 & 17 May ’13  Portico Centre, Level 5, 207 Kent Street, Sydney  
Brisbane 12 & 13 April ’13  RBW Hospital, Herston Rd, Herston, Brisbane  
Melbourne 31 May-1 Jun ’13  Royal Melbourne Hospital, Grattan Street, Parkville

THE NEUROSCIENCE OF DEPRESSION:  New opportunities for Effective Treatment.  Continuing Professional Development Hours  CPD – 12 Hours Specialised Training  
Sydney 13 & 14 June ’13  Portico Centre, Level 5, 207 Kent Street, Sydney  
Melbourne 21 & 22 June ’13  Royal Melbourne Hospital, Grattan Street, Parkville  
Brisbane 27 & 28 June ’13  RBW Hospital, Herston Rd, Herston, Brisbane

THE DEVELOPING BRAIN AND THE NEUROSCIENCE OF MEMORY AND TRAUMA  
Continuing Professional Development Hours - CPD – 12 Hours Specialised Training  
Brisbane 12 & 13 Sept ’13  RBW Hospital, Herston Rd, Herston, Brisbane

THE SOCIAL BRAIN AND THE NEUROSCIENCE OF RELATIONSHIPS  
CPD – 12 Hours Specialised Training  
Canberra 18 & 19 Oct ’13  Calvary Priv. Hospital, Mary Potter Ct, Bruce, ACT  
Adelaide 25 & 26 Oct ’13  Hackney Hotel, 96 Hackney Rd, North Adelaide  
Perth 1 & 2 Nov ’13  St Catherine’s Col, UWA, 2 Park Rd, Nedlands, Perth

ABOUT THE PRESENTER

Peter J. Rossouw  MClin Psych, PhD; MAPS; CCUN.  
Peter is the Director of the Master of Counselling Program at the School of Psychology and the School of Social Work and Human Services at The University of Queensland. His research and teaching focuses on Neuropsychotherapy. Peter is also the Director of Mediros – a company that provides training in Neurobiology and Neuropsychotherapy.

Peter has been in private practice for the past 25 years. Peter holds Honours Degrees in Philosophy and Psychology, a Master Degree in Clinical Psychology and a PhD. Peter is a member of the Australian Psychological Society and the APS College of Clinical Psychologists. He provides Mental Health training for GPs and is accredited at the Royal Australian College of General Practitioners. Peter was a Professor in Clinical Psychology at Universities in Canada, Holland and South Africa where he also spearheaded a Psycho-Therapeutic Assistance Program to support people being exposed to trauma.

Peter specialises in neuropsychotherapy and is an expert in anxiety and mood disorders. He has published 5 Scientific Books and 20 scientific articles. He has been involved in research in extensive clinical trials and presented research papers at 30 International Conferences worldwide. He is a member of the Global Association for Interpersonal Neurobiology Studies, the International Society for Traumatic Stress Studies, the International Association for Family Therapy and the Professional Association for Drug and Alcohol Workers and the Australasian Cognitive Neuroscience Society.

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WORKSHOP VENUES  
Sydney  •  Melbourne  •  Brisbane  •  Perth  •  Adelaide  •  Canberra  •  Hobart

1 DAY SKILLS CLASSES

FOCUSED NECOPSYCHOThERAPY  - Applied Strategies for the treatment of DEPRESSION -CPD – 12 Hours Specialised Training  
Brisbane 04 Dec ’13  RBW Hospital, Herston Rd, Herston, Brisbane  
Melbourne 07 Dec ’13  Royal Melbourne Hospital, Grattan Street, Parkville

FOCUSED NECOPSYCHOThERAPY  - Applied Strategies for the treatment of ANXIETY -CPD – 12 Hours Specialised Training  
Melbourne 15 & 16 Nov ’13  Royal Melbourne Hospital, Grattan Street, Parkville  
Brisbane 21 & 22 Nov ’13  RBW Hospital, Herston Rd, Herston, Brisbane  
Sydney 28 & 29 Nov ’13  Portside Centre, Level 5, 207 Kent Street, Sydney  
Hobart 25th & 26th Nov’13  Grand Mercure Fadeway Hotel, 84 Murray St, Hobart

NEW WORKSHOP

Sydney 30 Aug ’13  Portside Centre, Portside Centre, Level 5, 207 Kent Street, Sydney

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### Workshops – Two Days

**The Brain & Anxiety: Neurobiological information as Psychotherapeutic Tool**
- **Continuing Professional Development Hours**: 12 hours specialised training
- **Dates and Locations**:
  - **Sydney**: 16 & 17 May 2013, Portside Centre, Level 5, 207 Kent Street, Sydney
  - **Brisbane**: 12 & 13 April 2013, RBW Hospital, Herston Rd, Herston, Brisbane
  - **Melbourne**: 31 May & 1 Jun ’13, Royal Melbourne Hospital, Grattan Street, Parkville

**The Neuroscience of Depression: New opportunities for Effective Treatment**
- **Continuing Professional Development Hours**: 12 hours specialised training
- **Dates and Locations**:
  - **Sydney**: 13 & 14 June 2013, Portside Centre, Level 5, 207 Kent Street, Sydney
  - **Melbourne**: 21 & 22 June 2013, Royal Melbourne Hospital, Grattan Street, Parkville
  - **Brisbane**: 27 & 28 June 2013, RBW Hospital, Herston Rd, Herston, Brisbane

**The Developing Brain and the Neuroscience of Memory and Trauma**
- **Continuing Professional Development Hours**: 12 hours specialised training
- **Dates and Locations**:
  - **Brisbane**: 12 & 13 Sept 2013, RBW Hospital, Herston Rd, Herston, Brisbane
  - **Melbourne**: 20 & 21 Sept 2013, Royal Melbourne Hospital, Grattan Street, Parkville
  - **Sydney**: 3 & 4 October 2013, Portside Centre, Level 5, 207 Kent Street, Sydney

**The Social Brain and the Neuroscience of Relationships**
- **Continuing Professional Development Hours**: 12 hours specialised training
- **Dates and Locations**:
  - **Canberra**: 18 & 19 Oct 2013, Calvary Private Hospital, Mary Potter Cct, Bruce, ACT
  - **Adelaide**: 25 & 26 Oct 2013, Hackney Hotel, 96 Hackney Road, North Adelaide
  - **Perth**: 1 & 2 Nov 2013, St Catherine’s Coll, UWA, 2 Park Rd, Nedlands, Perth
  - **Melbourne**: 15 & 16 Nov 2013, Royal Melbourne Hospital, Grattan Street, Parkville
  - **Brisbane**: 21 & 22 Nov 2013, RBW Hospital, Herston Rd, Herston, Brisbane
  - **Sydney**: 28 & 29 Nov 2013, Portside Centre, Level 5, 207 Kent Street, Sydney
  - **Hobart**: 25th & 26th Nov 2013, Grand Mercure Hadleys Htl, 34 Murray St, Hobart

### Skills Classes – One Day

**Focused Neuropsychotherapy - Applied Strategies for the treatment of ANXIETY**
- **Continuing Professional Development Hours**: 6 hours specialised training
- **Dates and Locations**:
  - **Brisbane**: 9 August 2013, RBW Hospital, Herston Rd, Herston, Brisbane
  - **Melbourne**: 24 August 2013, Royal Melbourne Hospital, Grattan Street, Parkville
  - **Sydney**: 30 August 2013, Portside Centre, Level 5, 207 Kent Street, Sydney

**Focused Neuropsychotherapy - Applied Strategies for treatment of DEPRESSION**
- **Continuing Professional Development Hours**: 6 hours specialised training
- **Dates and Locations**:
  - **Brisbane**: 4 December 2013, RBW Hospital, Herston Rd, Herston, Brisbane
  - **Melbourne**: 7 December 2013, Royal Melbourne Hospital, Grattan Street, Parkville
  - **Sydney**: 13 December 2013, Portside Centre, Level 5, 207 Kent Street, Sydney

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**COSTS**

**Two Day Workshops**
- Early Bird rate (60 days prior): $495.00
- Standard Rate: $545.00
- Student rate (copy of st card): $465.00
- Group (4+, one payment): $450.00

**One Day Skills Classes**
- Early Bird rate (60 days prior): $295.00
- Standard Rate: $345.00
- Student rate (copy of st card): $265.00
- Group (4+, one payment): $270.00

**Discount rate on Skills Classes if booked at the same time as a two day Workshop**
- Early Bird rate (60 days prior): $265.00
- Standard Rate: $310.00
- Student rate (copy of st card): $240.00
- Group (4+, one payment): $245.00

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**PAYMENT OPTIONS**

**Cheque/Bank Transfer** – we will email you the invoice, your unique registration number and Mediros bank details.

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