Professional Practice Guideline 6

Guidance for the use of stimulant medications in adults

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The Royal Australian & New Zealand College of Psychiatrists

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Methylphenidate and dexamphetamine and other stimulant medications enhance the presynaptic release of catecholamines, in particular dopamine. The Royal Australian and New Zealand College of Psychiatrists (RANZCP) supports the appropriate use of these drugs in the treatment of attention deficit hyperactivity disorder (ADHD) and narcolepsy in adults, for which there is a sound evidence base. Although stimulant medications have occasionally been used in other clinical disorders (see below), those indications are supported by a limited evidence base, and generally fall outside prescription regulations. This document provides clinical guidance for the use of stimulant medications, as one part of a holistic treatment plan.

Overview

Methylphenidate and dexamphetamine and other stimulant medications are classified by Australian and New Zealand regulations as drugs of dependence/addiction, or controlled drugs. There are differences in the legal mechanisms for prescription between each of the states and territories in Australia, and in New Zealand, and practitioners should familiarise themselves with regulations in their jurisdiction.

A second opinion should be sought prior to the commencement of stimulant medications where a psychiatrist has concerns about the diagnosis, when there is a history of schizophrenia, other psychosis or substance use disorder, or when dosages in excess of 30 mg daily of dexamphetamine or 60 mg daily of methylphenidate are contemplated.

Specific caution, including appropriate monitoring, is required in the consideration of stimulant prescription to persons who have a history of substance abuse or dependence.

Stimulants and adult attention deficit hyperactivity disorder

ADHD was previously considered to be a disorder limited to childhood and adolescence, however it is now recognised to be a lifelong disorder in many instances. Follow-up of a large cohort of children with ADHD has demonstrated that, for the majority, clinically significant ADHD symptoms persist into adulthood (Weis et al, 1985; Mannuzza et al, 1991). A meta-analysis of follow-up studies indicated that about 65% of children with ADHD experienced partial remission in adulthood, and the full ADHD diagnosis persisted in approximately 15% of cases (Faraone & Mick, 2006).

A diagnosis of ADHD in an adult is made on clinical grounds and requires the presence of long-standing, high level symptoms of inattention and/or hyperactivity/impulsivity which have been present since childhood. The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM 5) or the tenth edition of the International Statistical Classification of Diseases and Related Health Problems, Australian Modification (ICD 10 AM) criteria are the minimum necessary for a diagnosis of ADHD (American Psychiatric Association, 2013; World Health Organisation, 2010). As such, the symptoms need to have been present before the age of 12 years and found to be impacting on different domains and settings (including work and study) of the person's everyday life for a clinical diagnosis to be made.

Assessment of adults with suspected ADHD should include a thorough medical and psychosocial assessment. A confident diagnosis of ADHD in an adult usually requires corroborative evidence from family sources and educational and employment settings, previous and current.

Other possible diagnoses or co-morbidities should be considered, in relation to the patient's history, for example, acquired brain injury, neurological condition or other DSM 5 or ICD 10 AM diagnoses (American Psychiatric Association, 2013; World Health Organisation, 2010). Co-morbid psychiatric disorders including substance use disorders, mood disorders, anxiety disorders and eating disorders are common in adults with ADHD and usually require treatment in their own right (Barkley, 2008). In most instances, the co-morbidity needs to be further stabilised prior to commencing treatment for ADHD.

A multimodal treatment approach is recommended when addressing psychological, behavioural, educational or occupational needs (CADHDRA, 2012; RANZCP, 2012). Medication is typically indicated when the ADHD symptoms give rise to moderate or severe impairment. As mentioned previously, medication should be part of a multimodal treatment approach.

International guidelines recommend that methylphenidate should be the first medication trialled and that atomoxetine or dexamphetamine should be considered in adults unresponsive or intolerant to an adequate trial of methylphenidate. The risk of stimulant misuse or diversion is thought to be higher with dexamphetamine compared to methylphenidate (NICE, 2013). A recent meta-analysis of 23 double-blind placebo-controlled drug trials in children and adolescents with ADHD, however, indicated moderate but significantly larger effect sizes for amphetamine-based preparations compared to methylphenidate (Faraone & Buitelaar, 2010).

Clinicians should identify clear endpoints and discuss a proposed duration of treatment with patients prior to commencement of stimulant treatment.

The use of standardised scales for assessment of possible ADHD symptoms and also the measurement of treatment response is recommended to complement the clinical interview of the patient and any significant other persons.

Clinicians should assess and monitor the risk associated with stimulant prescription in adults with a history of hypertension, cardiovascular or cerebrovascular disorders. A baseline electrocardiogram (ECG) should be performed if there is a family history of serious cardiac disease or sudden death in young family members, or abnormal finding on cardiac examination (NICE, 2013). The patient's blood pressure should be regularly monitored during the course of treatment with stimulant medication.

If using methylphenidate in adults with ADHD, initial treatment should begin with low doses (5 mg three times daily for immediate release preparations), the dose being increased in a stepwise fashion against symptoms and side-effects over a period of some four to six weeks (NICE, 2013). Dosages in excess of 60 to 80 mg a day of methylphenidate are generally not recommended (Mannuzza, 1991) although in some exceptional circumstances dosages of up to the maximum recommended by the National Institute of Health and Care Excellence (NICE) Guidelines (100 mg daily) may be required (Bolea-Alamañac, 2014).

If using dexamphetamine in adults with ADHD, initial treatment should begin with low doses (5 mg twice daily), the dosage being increased in a stepwise fashion against symptoms and side-effects over a period of some four to six weeks (NICE, 2013).

In some jurisdictions a second psychiatric opinion is required if dosages of more than 60 mg a day of methylphenidate or 30 mg a day of dexamphetamine are prescribed (RANZCP, 2012).

Narcolepsy

Stimulant medications are a long established mainstream treatment for narcolepsy.

A limited number of controlled trials containing small numbers of patients have been published. These studies, together with the extensive clinical experience provide support for the efficacy of this strategy (Mannuzza, 1991).

Other clinical conditions which fall outside current licensed use, and for which limited evidence is present in the literature

Stimulant medications have been reported as useful in the management of cognitive and behavioural disturbances after traumatic brain injury (Kessler et al, 2006; Spencer, 2007; Morgenthaler et al, 2007; Sachdev, 2000), in the management of the mood disturbances and cognitive slowing that occurs in acquired immune deficiency syndrome-related dementia (Morgenthaler et al, 2007; Siddall, 2005; Tenovuo, 2006), and in the adjunctive treatment of major depressive disorder (Ng, 2009; Candy et al, 2008).

Evidence is limited, however, and there may be the risk of interactions with other medications used in these conditions, and the medical condition of the patient would require particular consideration.

Stimulant medications should only be considered in these settings when conventional treatments have failed, a second opinion obtained from an experienced colleague supports the consideration, and the most recent literature is reviewed. Local licensing regulations should also be reviewed. Specific monitoring of effectiveness and clear endpoints for treatment should be documented. The informed consent of the patient that covers these matters is obligatory. For more information, please refer to the RANZCP's Practice Guideline 4 ''Off-label' prescribing: the use of medication in dosages exceeding the recommended range or for indications for which it is currently not licensed' (RANZCP, 2015).

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Revision Record

Contact:	**Senior Manager, Practice, Policy and Partnerships**		
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03/1993	1.0	General Council	Adopted
11/1999	2.0	General Council	Updated
05/2009	3.0	General Council	**Updated**
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