ADHD IN ADULTS & THE GENERAL PRACTITIONER

IDENTIFYING – DIAGNOSTIC ASSESSMENT – MAINTENANCE TREATMENT

Translated from Dutch

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Introduction ADHD is frequently diagnosed and treated within mental healthcare (GGZ), but first, it is the general practitioner who must recognise the disorder and refer for diagnostic assessment and/or treatment. Following discharge, the patient typically returns to the general practitioner for maintenance treatment with medication. Because treating ADHD in adults remains somewhat unfamiliar territory for many general practitioners, this booklet aims to fulfill that need. The content is based on over 30 years of clinical experience with treatment of adults with ADHD. NB - This booklet should not be used by people looking for help in stead of medical advice.

CONTENTS COVERED

1. Identifying and Screening for ADHD in Adults in General Practice
2. Diagnostic Assessment: Where and How
3. Maintenance treatment: monitoring frequency, medication and dosage, and managing complications
4. Sleep and ADHD
5. ADHD in women and the impact of hormonal fluctuations
6. Travelling abroad
7. More information

APPENDICES

1. Ultra-short Questionnaire for ADHD in Adults
2. ADHD Maintenance Checklist for the General Practitioner
3. Medication Checklist for ADHD/ADD in Adults
4. Visual Head Heart Hormones (H3)-Network (www.h3-netwerk.nl)

1. IDENTIFYING ADHD AND SCREENING FOR ADHD IN ADULTS IN GENERAL PRACTICE

ADHD occurs in 3-5% of the adult population up to advanced age, but appears more frequently among individuals with psychiatric problems (20%), substance use disorders (25%), and offenders (40%).

ADHD involves lifelong concentration difficulties, inner restlessness, and/or impulsivity. Complaints can range from: "everything fails," experiencing a "full head," inability to sleep, difficulty relaxing, recurrent burnout, chronic fatigue, divorce, holding many jobs with frequent changes, binge eating, anger outbursts, to addiction, depression, and anxiety symptoms.

Due to the hereditary nature of ADHD, adult patients often have one or more children diagnosed with the condition. They recognise themselves in their child's behavior: "I was like that too when I was young, and I actually still am".

Untreated ADHD can lead to chronicity and a broad spectrum of mental and physical impairments :

- 4x higher risk of accidents,
- 2x higher mortality from accidents,
- Higher incidence of sleep problems, depression, bipolar disorder, autism, and addiction
- Higher rates of suicide and suicide attempts,
- Higher prevalence of obesity, poorly controlled diabetes and asthma, as well as among others migraine, hypermobility, allergies, infections, immune diseases, (long) COVID-19, cardiovascular diseases, and dementia.

Quick screening for ADHD in general practice is possible using just 4 questions: 3 on the core symptoms and 1 on the lifelong course. The Ultra-short Questionnaire for ADHD in Adults is used in the Netherlands at locations of PsyQ, a mental healthcare provider, for assignment to specialised ADHD programs (see Appendix 1).

2. DIAGNOSTIC ASSESSMENT: WHERE AND HOW

When ADHD is suspected, a referral to mental healthcare can be made for further diagnostic assessment using the Diagnostic Interview for ADHD in Adults (DIVA-5), which is based on DSM-5 criteria. DIVA-5 is used worldwide (in > 30 languages) for ADHD assessment in clinical care and research (see also www.divacenter.eu). DIVA-5 has been revised in 2026 to DIVA-5-R(evised) to improve the recognition of women and older adults with ADHD. These groups are frequently underdiagnosed or diagnosed far too late, leading to significant negative consequences.

If trained, the mental health practice nurse, psychologist or psychiatrist in specialized mental healthcare can establish the diagnosis of ADHD and comorbid conditions.

Upon discharge from mental healthcare, the general practitioner is often requested to continue pharmacological treatment. The following section provides useful tips formulated in consultation with general practitioners from general practice "de Doc" in The Hague, The Netherlands.

3. MAINTENANCE TREATMENT OF ADHD OR ADD IN ADULTS BY THE GENERAL PRACTITIONER

Anne Kjems Philipsen, Anne Mønsted & Sandra Kooij

Ensure you have received a clear treatment plan from the psychiatrist when your patient is referred back to the general practice for monitoring and maintenance treatment of ADHD or ADD. In accordance with the Dutch Organisation of Psychiatry (NVvP) ADHD Care Standard (2018), the general practitioner takes over treatment after discharge from specialised mental healthcare.

MAINTENANCE TREATMENT PROTOCOL BY THE GP

1. Biannual check-ups evaluating the current situation, treatment adherence, blood pressure, pulse, and weight (and height for children).
2. Prior to the consultation, the patient completes the attached questionnaire to save time.
3. During the consultation, the questionnaire is reviewed together with the patient; only items answered positively need to be discussed.
4. Determine whether problems can be resolved through practical tips, medication adjustments, consultation with school/employer/partner/psychiatrist, or if re-referral to mental healthcare is necessary.
5. The next appointment is scheduled immediately and entered into the patient's agenda.
6. Remind the patient of the upcoming appointment via the secretariat using SMS, app, or email.
7. Email instructions on how medication should be used until the next consultation.

Note: In women, hormonal fluctuations (premenstrual, postpartum, perimenopausal) can influence ADHD symptoms and response to stimulants.

GOOD TO KNOW ABOUT TREATMENT

- ADHD treatment consists of psycho-education, medication, coaching, and cognitive therapy.
- Treatment without medication is possible, but usually yields insufficient results because attention deficits remain too severe to benefit adequately from therapy.
- It is recommended to try medication at least once, because someone with ADHD does not actually know what it feels like to be calm and focused for an extended period. Stopping is always possible if the medication is not well-tolerated.
- Stimulants are more effective for concentration problems, inner restlessness, and impulsivity, as well as for often severe mood swings, compared to other medications for ADHD (atomoxetine, bupropion, guanfacine).
- Most common side effects include decreased appetite, accelerated heart rate, and headache. Pre-existing moderate depression or dysthymia may worsen with stimulants; the mood disorder must be treated first before stimulants are added. In ADHD with untreated bipolar disorder, stimulants can precipitate a (hypo)mania, so bipolar disorder must be treated first as well.
- If a patient complains of feeling so calm that creativity decreases too much, the dose, timing, or medication type can be adjusted.
- First-choice medication for ADHD is methylphenidate for children and dexamphetamine for adults, based on a meta-analysis of available research. Stimulants provide the highest response rate (70-80%) and are relatively well-tolerated.
- Dexamphetamine can result in a positive saliva drug test while driving, which can be very distressing for patients. Regulations for driving using stimulant medication may differ per country.
- Most medications are registered for children with ADHD, sometimes not (yet) for adults, this may differ per country. Off label use of stimulant medication is the rule in the Netherlands.
- Long-acting stimulants are preferred over short-acting ones due to rebound phenomena as the medication wears off, which temporarily intensifies ADHD symptoms. Long-acting medication is safer in traffic and for individuals with ADHD and

addiction, and works better because it requires less frequent dosing, reducing missed doses.

- Distinction between side effects and rebound: side effects occur approximately 1.5 hours after intake, whereas rebound occurs as the medication wears off.
- Long- and short-acting stimulants can be used together, for example, to extend the duration of action in the late afternoon, or for a faster start in the morning (adding 10-20 mg short-acting methylphenidate or 5 mg dexamphetamine).
- Starting doses: 18-36 mg longacting methylphenidate, 20-30 mg long-acting lisdexamfetamine (Elvanse), or 40 mg atomoxetine.
- Dosage is titrated upward based on effect, duration, and side effects over 2-4 weeks. The duration of action of longacting methylphenidate varies individually but is approximately 8 hours; for lisdexamfetamine, it is 6-12 hours. This determines the dosing frequency per day. Most patients want to be able to concentrate in the evening as well, which may mean a duration of action from 8 hours in the morning up to 23:00. Atomoxetine works 24 hours/day.
- NB - Patients after bariatric surgery may experience a shorter duration of action. The dosing frequence should be established based on their needs.
- Dosages vary individually. Common adult dosages are: Longacting methylphenidate 1 dd 72 mg + 1 dd 54 mg/day; lisdexamfetamine 1 dd 50-70 mg/day up to 2 dd 70 mg/day; atomoxetine 1 dd 80-100 mg/day. The maximum dose of stimulants is unknown. In practice, a maximum dose of approximately 150 mg methylphenidate/day and 80 mg dexamphetamine is maintained. For lisdexamfetamine, this remains unknown in adults. According to manufacturer research, the safety of lisdexamfetamine has been demonstrated up to doses of 250 mg/day.

REIMBURSEMENT

- Reimbursement of the costs of medication may differ per country.

ADJUSTING MEDICATION

- Medication use should only be discontinued after careful consideration due to the risk of relapse.
- Co-existing hypertension, glaucoma, depression, or anxiety disorder generally does not constitute a reason to discontinue ADHD medication; these conditions can be treated concurrently without problems. This even applies to epilepsy, after consultation with the neurologist.
- In case of a mild increase in symptoms without serious risk, adjusting daily routines and reducing stressors may be sufficient.
- The patient is evaluated a few weeks later.
- If the above steps do not lead to sufficient improvement, a temporary increase in medication may be necessary.
- Methylphenidate: increase the dose by 5 to 10 mg per day; dexamphetamine by 2.5-5 mg per day. This applies to both short- and long-acting preparations. Administer the higher dose at the time the patient experiences the most difficulties. Be aware that medication in the afternoon and evening can negatively impact sleep. However, short-term increases in daily stimulant dosage rarely cause problems. Once external stressors have subsided, the dosage can be reduced again.
- Atomoxetine: may be increased by 10 mg per day, within the maximum recommended limit of 1.8 mg/kg/day (for adults). When external stressors subside, the dose can be reduced.
- Monitor blood pressure, heart rate, and weight. Also watch for nausea, dry mouth, decreased appetite, constipation, somnolence or insomnia, and sexual dysfunction; these side effects often diminish after a few weeks.
- Women with ADHD in general experience a 2-3x higher frequency of premenstrual exacerbations of concentration, mood (depressed, irritable, suicidal), and sleep problems, reaching the level of premenstrual dysphoric disorder. Continuous birth control pills the whole month (bio-identical hormones, e.g., Zoely), a low-dose continuous SSRI, and potentially a temporary dose increase (30-50%) of the usual stimulant dosage during this period can help.

- Severe symptoms also frequently occur postpartum and peri-menopausally and must be proactively screened for, as they hinder functioning and require targeted treatment (see also p. 10 for more information).

4. SLEEP AND ADHD

Sleep problems occur in 80% of individuals with ADHD/ADD, affecting both sleep onset and sleep maintenance. The most frequent sleep disorder in ADHD is delayed sleep phase syndrome, leading to late sleep onset times, which are associated with delayed melatonin production. Poor sleep exacerbates cognitive problems in ADHD and can trigger or maintain depression. Therefore, safeguarding the patient's sleep quality is essential. Because the sleep problems are often chronic, benzodiazepines are not indicated. Stimulants in the afternoon and evening can worsen sleep problems, but the pre-existing sleep problems are usually more severe. Optionally, a low dose of a short-acting stimulant close to bedtime can help (inducing sufficient calm to fall asleep), or alternatively, omitting the last dose.

Sleep hygiene is an important initial step in treating sleep problems, but is often insufficient to guarantee 7-8 hours of sleep duration. It is recommended to take 0.5-1 mg of melatonin 30-60 minutes before the desired sleep onset time, e.g., at 22:00. This low dose resets the biological clock to an earlier time, facilitating earlier sleep onset while maintaining the need for good sleep hygiene. The time required for the medication to work varies per patient and must be tested. Because the effect of melatonin is not always immediately apparent, it is advised to use melatonin for several weeks (every evening at around the same time, but not after midnight) and then evaluate the treatment effect. Higher doses of melatonin can lead to accumulation and daytime grogginess.

Light halts melatonin production through the eyes. Therefore, patients are advised to avoid light exposure (screens) after 21:30, or alternatively wear orange-tinted glasses in the evening that block blue light (which halts melatonin production). Melatonin is short-acting (2-3 hours) and thus primarily promotes sleep onset. Circadin 2 mg contains long-acting melatonin (8 hours, registered for age 55+ due to age-related decline in melatonin levels) and promotes also sleep maintenance. Individuals with ADHD who fall asleep on short-acting melatonin but wake around 03:00 and struggle to return to sleep often benefit from Circadin.

Morning light therapy at a fixed time is another signal for the biological clock that can "reset" the sleep rhythm to an earlier time. It is also effective for winter depression, which is more common in ADHD. Patients use 10,000 lux light boxes positioned 20 cm from the eyes for 30 minutes daily for 1-3 weeks at a fixed time early in the morning, e.g., 07:00-07:30. Distance to the eyes and timing are crucial for efficacy. The newest development is light therapy glasses, which have a comparable effect without interrupting morning routine tasks at home (e.g., Propeaq).

OTHER SLEEP DISORDERS

In addition to delayed sleep phase syndrome, insomnia (difficulty falling and staying asleep due to arousal and ruminating), restless legs syndrome (RLS) / periodic limb movement disorder, and sleep apnea occur at elevated rates in ADHD. Treatment is disorder-specific and carried out with advise of trained professionals or sleep expertise centers.

5. ADHD IN WOMEN AND IMPACT OF HORMONAL FLUCTUATIONS

Girls and women with ADHD experience premenstrual (45%), postnatal (58%), and perimenopausal depression 2-3x more frequently, alongside a high prevalence of premenstrual exacerbation of ADHD (PME). Women with other psychiatric conditions also suffer from symptom exacerbations during these periods. The explanation may lie in the interaction between neurotransmitters such as dopamine and serotonin with esp. estrogen in the brain. Dopamine is considered dysregulated in ADHD. Estrogen shares the same brain functions as dopamine regarding concentration, memory, and mood stability. Estrogen is also closely involved in dopamine synthesis and inhibits its breakdown. Consequently, in the presence of a dysregulated dopamine level, low estrogen levels are particularly burdensome for mood and concentration. Insufficient data is currently available regarding potential interactions with progesterone.

Continuous birth control pills (with bio-identical hormones, e.g., Zoely, which is often better tolerated), a low-dose continuous SSRI (avoiding intermittent dosing of SSRIs in ADHD due to the risk of forgetting), and a premenstrual dose increase of 30-50% of the usual stimulant dosage can assist with premenstrual depression, though more research is still necessary. This likely applies to postpartum depression as well (affecting 58%). Given the high risk of postpartum depression, monitoring women with ADHD for this condition is crucial to enable timely treatment initiation if needed.

Note: It is a relatively new and less widely recognised finding that perimenopause in women with ADHD may start 5-10 years earlier compared to women without this conditon, as early as from age 35, before anyone suspects it, as shown by recent population studies. This early transition requires medical attention, explanation, timely hormone replacement therapy (HRT), earlier cardiovascular screening for CVD, alongside potential treatment with melatonin, SSRIs, and ADHD medication (more info via Homepage - H3-Netwerk).

6. TRAVELLING ABROAD

If your patient travels abroad, a medical certificate may be necessary to carry along with the stimulant medication, but regulations vary by country; therefore, patients are advised to contact the embassy of the destination country directly. Medical certificates in English are generally accepted.

7. MORE INFORMATION

- Kooij, JJS. Adult ADHD. Diagnostic Assessment and Treatment. Springer, 4th edition, 2022.
- Van de Sande, Jacqueline and Kooij, Sandra. *Mastering ADHD for women. Recognize, Embrace and Thrive with it.* Penquin Random House, UK, 2026.

The Head Heart Hormones Network (H3-Netwerk), initiated by psychiatrist Sandra Kooij, Janneke Wittekoek (cardiologist) and Dorenda van Dijken (gynaecologist), promotes multidisciplinary collaboration between general practitioners, medical specialists, and paramedics for better integrated women's healthcare in the Netherlands. This is shaped via regional H3 networks for consultation and referral through an app group, webinars, and symposia. Also see www.h3-netwerk.nl.

CONTINUING EDUCATION

- Online educational video platform featuring English videos, by prof. Sandra Kooij & dr. Dora Wynchank on adult ADHD: www.ADHDPowerbank.nl.

APPENDIX 1

ULTRA-SHORT QUESTIONNAIRE FOR ADHD IN ADULTS

J.J.S. Kooij, psychiatrist (2006)

1. Do you usually feel restless? **Yes / No**
   (for example: rushed, trouble sitting still, fidgeting, exercising excessively, or being constantly in motion)

2. Do you usually tend to act first and think later? **Yes / No**
   (for example: blurting things out, spending too much money, or being impatient)

3. Do you usually have concentration problems? **Yes / No**
   (for example: easily distracted, not finishing things, quickly bored, forgetful, or chaotic)

If the answer to one or more of the above questions is 'yes':

4. Have you always had this? **Yes / No**
   (as long as you can remember, or have you been this way for most of your life)

If the answer to question 4 is 'yes', consider further diagnostic assessment of ADHD.

ABOUT THE ULTRA-SHORT QUESTIONNAIRE FOR ADHD IN ADULTS

This Ultra-short Questionnaire for ADHD in Adults can serve as an initial screening tool when ADHD is suspected. The questionnaire is not validated in research, but applies the DSM-5 diagnostic criteria: probing the three core symptoms of restlessness or hyperactivity, impulsivity, and concentration or attention problems. A symptom must not occur occasionally, but typically ("usually"). Furthermore, if present, the symptom must have been present continuously since childhood (< 12 years of age).

All three potential ADHD presentation types are evaluated with these four questions: the inattentive, hyperactive/impulsive, and combined presentation types. The questionnaire highlights that the core of ADHD is not merely the presence of one or more symptoms, but their chronicity (always had it / always been this way).

WHAT NEXT AFTER INITIAL SCREENING?

If there is reason to suspect ADHD, further diagnostic assessment can be performed in general practice or in mental health care by trained mental health care professionals, using the semi-structured Diagnostic Interview for ADHD (DIVA-5-R) (available in > 30 languages online via www.divacenter.eu).

Reference: J.J.S. Kooij. *ADHD in Adults. Diagnostic Assessment and Treatment*, 4th edition, Springer (2022).

APPENDIX 2

ADHD MAINTENANCE CHECKLIST FOR THE GENERAL PRACTITIONER

By Anne Kjems Philipsen, Anne Monsted & Sandra Kooij

Question	Yes	No
1. Do you have problems with hyperactivity, e.g., restlessness, nervousness, trouble sitting still, fidgeting, or excessive physical activity?		
2. Do you have problems with impulsivity, e.g., acting without thinking, blurting things out, spending too much money, or impatience?		
3. Do you have problems with concentration, e.g., easily distracted, bored, forgetful, chaotic, or failing to finish tasks?		
4. Do you have problems during the day, e.g., at school or work?		
5. Do you have problems with social contacts?		

6. Do you have problems in your leisure time?		
7. Are there problems within the family?		
8. Have there been recent changes in your life affecting you?		
9. Are you in a stressful period?		
10. Are you currently depressed or sad?		
11. Do you experience mood swings during the day?		
12. Are there specific times during the day when you experience difficulties?		
13. Do you eat more or less than normal?		
14. Do you have trouble sleeping?		
15. Do you forget to take your medications?		
16. Do you need extra medication for your ADHD/ADD?		

17. Do you suffer from medication side effects?		
18. Do you experience support from alcohol, marijuana, drugs, or other medication at this time?		
19. Is there anything you need specific help with?		

FOR CHILDREN ONLY

Question	Yes	No
1. Is the child more irritable than usual?		
2. Is the child angry more often than usual?		
3. Is the child growing as expected?		
4. Is the child developing well?		
5. Is the child happy?		

APPENDIX 3

MEDICATION CHECKLIST FOR ADHD/ADD IN ADULTS

(*NB THIS LIST IS NOT COMPLETE AS AVAILABILITY MAY DIFFER PER COUNTRY)*

Long-acting = low dosing frequency = fewer missed doses = better adherence

(M) = contains methylphenidate; **(D)** = contains dexamphetamine

Category	**Name**	**Tablets / Strengths**	**Duration per dose**	**Frequency per day / Notes**
Stimulants - Short-acting	Ritalin® (M)	10 mg	2-4 hours	4-6 times Max dose 150 mg/day
	Medikinet® (M)	5, 10 or 20 mg	2-4 hours	3-4 times Max dose 150 mg/day
	Dexamfetamine (D)	2, 2.5, 3, 5, 7.5 or 10 mg	3-5 hours	3-5 times Max dose 40-80 mg/day
	Tentin® (D)	5 mg	3-5 hours	1-2 times / day

Category	Name	Tablets / Strengths	Duration per dose	Frequency per day / Notes
Medium-acting / Long-acting	Medikinet CR® (M)	5, 10, 20, 30, or 40 mg	5-8 hours	2-3 times
	Equasym XL® (M)	10, 20 or 30 mg	6-8 hours	1-2 times
	Concerta® (M)	18, 27, 36 or 54 mg	8-12 hours	1-2 times
	Kinecteen® (M)	18, 27, 36 or 54 mg	8-12 hours	1-2 times
	Methylfenidaat Retard Sandoz or Mylan (M)	18, 36 or 54 mg	8-12 hours	1-2 times Max dose 150 mg/day
	Elvanse® (D) (Lisdexamfetamine)	20, 30, 40, 50, 60 or 70 mg	6-12 hours	1 time / day Common dose 70 + 50 mg/day. Max dose unknown (safety shown up to 250 mg/day)

Category	Name	Tablets / Strengths	Duration per dose	Frequency per day / Notes
Non-Stimulants	Strattera® (Atomoxetine)	10, 18, 25, 40, 60, 80 or 100 mg	24 hours	1-2 times (dose can be split in two) Max dose: Children: 1.2-1.8 mg/kg/day. Adults: 1.8 mg/kg/day (approx. 80-100 mg/day)
	Intuniv® (Guanfacine)	1, 2, 3 or 4 mg	24 hours	1 time / day Max dose 7 mg
	Modafinil (Modiodal) *(Registered for narcolepsy)*	100 mg	24 hours	1-2 times (dose can be split) Max dose 400 mg
	Wellbutrin 150 mg (Bupropion) *(Registered for depression	150 mg	24 hours	1-2 times Max dose 300-450 mg/day

Category	Name	Tablets / Strengths	Duration per dose	Frequency per day / Notes
	and smoking cessation)*			

WOMEN'S HEALTHCARE: HEAD, HEART AND HORMONES

- Women with ADHD, as well as with other mental health conditions, frequently experience a combination of mental, hormonal, and cardiological symptoms, hence Head, Heart, and Hormones.
- Women with ADHD suffer more frequently from:
    - Premenstrual depression (45%),
    - Postnatal depression (58%),
    - Severe mental and physical symptoms during peri-menopause.
- Women with ADHD likely enter menopause earlier (from age 35) and appear to present to the cardiologist 2 years earlier compared to other women.
- Women often fail to receive proper diagnoses. With more integrated women's healthcare, the female body is better understood, leading to better treatments for women.
- 80% of all women experience peri-menopausal symptoms; however, for the 20 percent without symptoms, the risk of cardiovascular disease and osteoporosis is still increased.
- Also women with other psychiatric conditions (anxiety, depression, bipolar disorder, personality disorders, autism, etc.) suffer more from hormonal fluctuations.
- Transdermal estrogen (patch/gel/spray) is safe when combined with a hormonal intrauterine device (coil) or Utrogestan capsules (= progesterone, may also help with sleep). Please check for instance the guidelines of the European Menopause and Andropause Society (EMAS).
- **Order of Treatment of Symptoms:** First treat Heart (cardiovascular complaints) and Hormones (premenstrual, postnatal or peri-menopausal symptoms), followed by stress / depression / anxiety / sleep disorders, and ADHD (Head). Always via general practitioner/specialist, optionally in collaboration with paramedics.

VISUAL BY THE HEAD HEART AND HORMONES (H3)-NETWORK

Gynecologist Dorenda van Dijken, psychiatrist Sandra Kooij, and cardiologist Janneke Wittekoek joined forces at www.h3-netwerk.nl. The Visual below aimes to inform both women with ADHD and/or other mental disorders, and their health care providers to pay attention to their health risks on time.

