Section I

Introduction

Chapter 1
Why This Book Is Needed

ADHD: Non-Medication Treatments and Skills for Children and Teens is specifically designed to meet the needs of mental health practitioners, teachers, other helping professionals and parents who want non-medication strategies to help children and teens thrive with ADHD. It provides over 162 tools, including techniques, tips, activities, resources and worksheets that can be used with children and teens to help them successfully manage the challenges, as well as reduce the symptoms, unique to ADHD.

The workbook provides specific tools for:

- Making an accurate diagnosis of ADHD
- Teaching the neurobiology of ADHD
- Incorporating non-medication treatments and strategies
- Providing ADHD friendly psychotherapy
- Understanding and incorporating neurofeedback in the treatment plan
- Teaching mindfulness skills that help ADHD
- Understanding complementary therapies
- Creating a positive self-esteem and narrative
- Improving concentration and hyperactivity
- Better behavior and relationships
- Organizational skills
- Social skills
- Parenting skills specific to ADHD
- Improving sleep patterns
- ADHD specific movement and exercise
- Nutrition unique to the ADHD brain
- Creating a toxin-free environment
- School success
- Tracking progress

ADHD affects the lives of a significant number of children and teens. A recent study found that the rates for boys and girls are estimated to be 13.6% and 6.5%, respectively (Ghanizadeh, 2011). Although ADHD is one of the most researched childhood disorders, the exact cause is still uncertain. The symptoms of ADHD can cause difficulty and sometimes failure in school, social settings, and family life as well as cause low self-esteem, anxiety, depression and substance use. ADHD medication has long been the traditional treatment. This can be extremely effective for some, but many factors contribute to the fact that after a year of starting medication, only 33-50% are still taking it (Charach et al, 2013). This workbook provides the information, skills and strategies to help children and teens thrive whether or not they benefit from medication.

Section II

Assessment and Diagnosis

Chapter 2
Tools for Making an Accurate Diagnosis

Parents often come in asking to have their child or teen 'tested' for ADHD. They are looking for some definitive way to know if the symptoms their child experiences are symptoms of ADHD. They may have heard about ADHD from the media, their friends, other parents or their child's teacher. They expect their child to take a test and know for sure if they have ADHD.

Getting an accurate diagnosis for ADHD is not as simple as taking one test. Although there are some neuropsychological tests, continuous performance tests, and tests that compare brainwave data to normative databases which all aid in the diagnosis of ADHD, these test results must be combined with a thorough clinical assessment to determine if ADHD is present. There are other things that may cause symptoms that look like ADHD and there are a number of things that make ADHD symptoms worse.

This section describes the myriad of factors that need to be considered during the diagnostic process to assure the most accurate diagnosis. It presents a step-by-step process to determine if symptoms of ADHD are present. Additionally, it provides tools for deciding whether the presenting symptoms are truly symptoms of ADHD and not some other issue, such as head injury, allergy, depression, a sleep disorder or other causes often seen in clinical practice.

Tool 2-1: DSM-5® Diagnostic Criteria

BACKGROUND: *The Diagnostic and Statistical Manual of Mental Disorders DSM-5®* (American Psychiatric Association, 2013) contains the specific criteria that must be met for a diagnosis of Attention-Deficit/Hyperactivity Disorder. Clinicians should refer to it often while assessing for ADHD.

In the DSM-5 ADHD was moved from Disorders of Childhood to Neurodevelopmental Disorders. Tool 2-5 Neurobiology and Brain Imaging explains why this move makes perfect sense. If the client's symptoms meet the DSM-5 criteria, a diagnosis of ADHD can be made. This tool provides guidance on using an ADHD checklist to determine if the symptoms of ADHD, as defined by the DSM-5, are present. Tool 2-7, Mimics and Contributors will explore other possible causes of and contributors to these symptoms.

HANDOUT 2-1

ADHD SYMPTOM CHECKLIST

Name _____ Date _____

Completed by _____ Relationship to Client _____

Please circle the number which best describes the person.

	Never	*Sometimes*	*Often*	*Most of the Time*
INATTENTION				
• Makes careless mistakes or fails to notice details in schoolwork, work or other activities	0	1	2	3
• Has difficulty maintaining attention	0	1	2	3
• Easily distracted (by noises, people, talking, sights, things, thoughts)	0	1	2	3
• Does not follow through on instructions and fails to complete things (gets sidetracked)	0	1	2	3
• Has trouble organizing stuff, space, time	0	1	2	3
• Avoids or dislikes tasks requiring sustained concentration (such as homework or projects)	0	1	2	3
• Loses or misplaces things	0	1	2	3
• Tuned out, not appearing to listen when spoken to	0	1	2	3
• Forgetful	0	1	2	3
HYPERACTIVITY and IMPULSIVITY				
• Fidgets, moves hands and feet	0	1	2	3
• Has difficulty remaining seated when expected	0	1	2	3
• Runs around or climbs when it is not appropriate (in adolescents, may be limited to feeling restless)	0	1	2	3
• Talks too much	0	1	2	3
• Physically active as if "driven by a motor"	0	1	2	3
• Has difficulty playing quietly	0	1	2	3
• Blurts out answers, responds before question is completed	0	1	2	3
• Has trouble waiting their turn	0	1	2	3
• Interrupts. Intrusive (butts into conversations or games, takes over)	0	1	2	3

Must have 6 (5 if older than 17) "Often" or "Most of the Time" from either category, or from both for combined type

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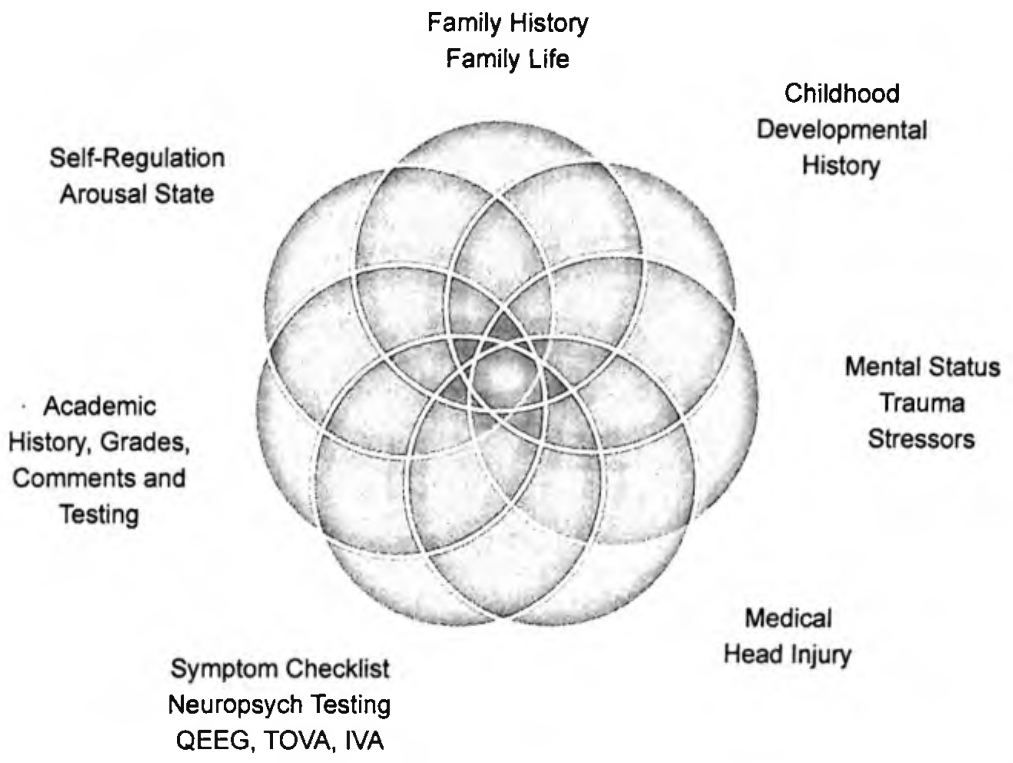
Structured Intake Session



Psychological Evaluation: As with any mental health intake, do a complete assessment of mood, concentration, hyperactivity, memory, sleep, energy, appetite, medications, suicidal ideation, mental status, health and substance use. A child or teen that is sleep deprived, anxious, bipolar, learning disabled, obsessive compulsive, drug addicted, or has trouble with sensory processing may have symptoms that look like ADHD that are actually coming from these other disorders. Keep in mind that many of these are comorbid with ADHD. It is very common for the frustration of dealing with symptoms of ADHD to cause anxiety, depression and poor self-esteem. See Tool 2-8 Comorbid Disorders for more detail.

ADHD Symptom Checklist: Use the ADHD Symptom Checklist on Handout 2-1 to find out if the child or teen has the symptoms of ADHD. Ask parents (both if possible), the client if mature enough, teachers, and others involved in the client's life to complete the checklist. See Tool 2-1 DSM-5 Diagnostic Criteria for how to use this checklist.

Does the client have trouble paying and sustaining attention? Are they able to organize their time, space, and belongings? Do they lose their homework, books, or jacket? Are they able to sit still? Are they revved up and wired? Do they interrupt others, talk all the time, say or do things without thinking? Are they tuned out, not paying attention, missing what people are saying to them? Do they try really hard but still take too long or make careless mistakes?

I often say to my client "imagine that you are sitting in class, the teacher is speaking, the student next to you is tapping their pencil, the window is open and the lawn mower is going, the door to the hall is open and the janitor walks by. What are you paying attention to?" If they have ADHD they often say "everything," "not the teacher," "the lawn mower."

When talking with your client or their caregiver, be sure to ask about any history of hitting their head no matter how insignificant it may have seemed at the time. Did they get a bump or a bruise, lose consciousness, need stitches or receive a concussion diagnosis? See Tool 2-3 QEEG for a case example of a seven-year-old girl initially diagnosed with ADHD, who had a concussion at age two, and its impact showed up on a quantitative EEG (QEEG) five years later.

Sensory Integration: If a client has a sensory processing or modulation disorder they have difficulty regulating and organizing responses to sensory input from the environment and their body. This can impact their motor function, emotional state, arousal and attention. The overlap of symptoms of Sensory Modulation Disorder (SMD) and ADHD makes it difficult to differentiate between the two. A client who appears wired or distracted may look like they have ADHD but may actually be having trouble processing sensory input (Miller, 2012), (Mangeot et al, 2001). See Tool 14-1 Sensory Integration Therapy for more detail.

Trauma: A child or teen that has experienced trauma may exhibit symptoms that look like ADHD as the trauma can dysregulate the brain in specific ways. Trauma can be a result of verbal, emotional or physical abuse, injury, illness, neglect, or witnessing or experiencing something that felt traumatic to the child. Look for any history of trauma and rule out Posttraumatic Stress Disorder (PTSD).

Academic: How is this child performing in school? Children with ADHD often do very well in the first few grades but then start to struggle as the work gets harder and more demanding, usually by third grade. Learning disabilities may mimic the symptoms of ADHD and may be present in addition to ADHD. It is important to make sure the child receives all the necessary testing in school to assess this. Look at the comments on their report card. If a child or teen has ADHD the comments will likely contain statements such as: trouble sitting still; difficulty staying on task; not working up to potential; talks out of turn; fails to raise his hand to speak; annoys other students who are trying to work; easily distracted; loses his homework, books, pencils; very social; needs constant attention and cueing; daydreams a lot. The comments usually give a more accurate picture of the symptoms of ADHD than the grades.

Family Life: Explore the dynamics of this client's family life. How is the family functioning? Is there a lot of conflict, anger, lack of structure, or chaos? Where does this child or teen fit into the family? How are they treated by parents and siblings? What words do the parents and siblings use to describe them? What is the birth order of this child? How do they get along with their parents and siblings? What expectations do the parents have of this child or teen? Are the client's symptoms stemming from family issues and not truly ADHD? Is there appropriate structure in place throughout the day? Family life can have a significant impact on the child or teen's functioning and ADHD symptoms can have also have a significant impact on the functioning of the family.

Social: ADHD symptoms can interfere with a client's ability to have good relationships with parents, peers, teachers and others. Some clients become alienated from peers due to their impulsivity, hyperactivity, less developed social skills, and behaviors that annoy potential friends. Even when children with ADHD have friends in elementary school, these friends may fall away as they get older and more mature. Some friends may no longer have the patience to deal with the annoying behaviors. On the other hand, some children and teens with ADHD are very successful socially and have lots of friends.

Find out how the client is doing socially. Do they have friends? Ask them to name a few. Do they ever connect with them outside of school? Who do they sit with at lunch? How do they get along with the neighborhood kids? Are they wishing for more friends? Do they struggle socially and not understand why? Do they have self-awareness about how their behaviors may push others away?

HANDOUT 2-2

STRUCTURED INTERVIEW CHECKLIST

- ☐ Psychological Evaluation, Comorbid Diagnosis
- ☐ ADHD Symptom Checklist
- ☐ Observe Self-regulation and Arousal State
- ☐ Family History
- ☐ Developmental History
- ☐ Medical History, Mimics and Contributors
- ☐ Head Injury
- ☐ Sensory Processing
- ☐ Trauma
- ☐ Academic
- ☐ Family Life
- ☐ Social
- ☐ Nutrition and Food Sensitivities
- ☐ Stressors
- ☐ Obtain and Review Results of Previous Testing
- ☐ Records from Previous Treatment
- ☐ Refer for Neuropsychological and Academic Testing
- ☐ Refer for QEEG, Test of Variables of Attention (TOVA®), Integrated Visual and Auditory Test (IVA)

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HANDOUT 2-3

WHAT IS A QEEG?

The QEEG is a quantitative electroencephalograph (EEG). As with a regular EEG brainwave, data is recorded and can be read by a neurologist to rule out seizure disorders and other disorders that will show up by observing the EEG. Then the brain wave data are compared to a database of normal brainwaves. A statistical analysis is done which provides specific information about how the brain is functioning at any given site and brainwave frequency compared to norms. The QEEG is used in computational neuroscience research centers and neurofeedback centers all over the world to study and treat ADHD, autism spectrum disorder, depression, bipolar disorder, PTSD, and other anxiety disorders, learning disabilities, traumatic brain injury and memory disorders such as Alzheimer's disease and other forms of dementia.

When you get a QEEG your brain's electrical activity is recorded at 19 sites on your head while you sit quietly with your eyes open for about 10 minutes and then with your eyes closed. Your EEG tracings are then converted to numbers and compared to the EEG of individuals with no known brain- based difficulties. This allows you to see patterns of brain dysfunction that may be related to your difficulties in life: you can see the basis in your brain for your problems.

There are a number of patterns commonly seen in ADHD. ADHD can be thought of as a dysregulated brain. The QEEG can help you understand what the source of your symptoms is and give you a better understanding of how your brain is regulating itself. It will help you know if you have ADHD or perhaps some other disorder such as a learning disorder, sensory integration issues, mood dysregulation and more. This will help you get a more accurate diagnosis and treatment better tailored to your needs. Then those areas of the brain can be targeted for change with neurofeedback.

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HANDOUT 2-5

NEUROBIOLOGY OF ADHD

Brain Differences Found in Children with ADHD:

Smaller Brain Structures (Basal Ganglia): A positron emission tomography (PET) study shows that boys with ADHD have significantly smaller basal ganglia volumes compared with typically developing boys, and remarkably different basal ganglia shapes. No volume or shape differences were revealed in girls with ADHD.

Neurotransmitter Dopamine: Studies found differences in dopamine production although a recent study found that dopamine dysregulation per se is unlikely to be the primary cause underlying ADHD pathology in adults.

Brainwave Patterns: The QEEG brain imaging technology has found differences in the size of certain brain waves as well as the electrical communication (coherence) within the brain. Some subsets of these patterns are being studied as well.

Three typical brainwave patterns seen in children with ADHD:

- **Increased Focal Theta** (daydreaming brainwaves) localized within frontal and/or midline regions on the brain 92% of the time.
- **Abnormally Large Alpha Brainwaves** (spacey, internally focused) localized within posterior and/or midline regions 84.1% of the time
- **Increased Beta** brainwaves (fast, revved up) in 13.1% of the study population with ADHD that was localized in frontal and/or posterior regions of the brain – basically all over the brain.

Coherence: Abnormal communication among different areas of the brain.

- **Hypocoherent:** Not communicating well enough
- **Hypercoherent:** Not differentiated enough

Delayed Brain Maturation: Brain imaging studies show in youth with ADHD.

- The brain matures in a normal pattern but is delayed, on average, by about 3 years (Shaw, et al, 2007). The delay is most pronounced in frontal brain regions involved in thinking, paying attention and planning.
- The outermost layer of the brain, the cortex, shows delayed maturation overall (Shaw, et al, 2012).
- A brain structure important for proper communications between the two halves of the brain shows an abnormal growth pattern.
- The motor cortex matures faster, which may be related to hyperactivity.

Gene Variations

- Hundreds of gene variations were found in children with ADHD not found in controls without it.

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HANDOUT 2-6-1

EXECUTIVE/CONDUCTOR IN THE PFC

Girl touching PFC

Conductor

Activity

Let's pretend we are conducting an orchestra. (Do it with them.) Use your imagination and your conductor baton to bring in the violins, quiet the flutes, make the trumpets louder, and now speed up the drums.

Now pretend we are the conductor or Prefrontal Cortex (PFC) in our brain. Use your imaginary conductor baton to tell your brain to concentrate a little more over there, calm down your body a bit over here, speed up, slow down, turn down that worry, spiff up how it plans and organizes, and turn up happiness.

Exercise

What does a conductor do in an orchestra?

Imagine that your PFC is the conductor of your brain. List the ways it "conducts" the activities of your brain, particularly the executive functions such as paying attention, planning, organizing, making decisions, mood regulation, motivation and time management.

List things you have trouble doing that are controlled by the PFC.

List things you do well that are controlled by the PFC.

Is there anything your PFC has trouble doing? (For example, concentrating?)

What might happen if the PFC is offline and not working well?

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