

# Tiltak for barn og unge med ADHD

## Bakteppe:

- Myter
- Trender
- Evidensbaserte tiltak

.....

”Habilitering for fremtiden”

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# Psycho-social and neuro-cognitive treatments for ADHD

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# Outline of the lecture

- Some general issues / perspectives
- Specific interventions:
  - Behavior therapy / cognitive behavior therapy
    - Parent Management Training (PMT)
    - Social skills training
  - Collaborative problem solving
  - School based interventions
  - Neurofeedback (EEG biofeedback)
  - Computerized training of Working Memory
  - (Practical advice)
  - NICE guidelines
  - Kenneth: A success story

# Some general issues

- Different from others or "ill"?:
  - "A hunters mind in a farmers world"
  - Compare with: "Autistic pride movement":
    - "Neurodivergents and neurotypicals".
  - Positive aspects of ADHD
- ADHD as a disability:
  - Limitations of the person AND requirement of the environment
- Treatment should be based on diagnosis:
  - Accommodate – compensate – accept – treat – train / teach

## Some general issues, cont.

- Accommodate:
  - Remove obstacles, but keep challenges.
- Compensate:
  - Use assets/ strengths – individual learning style
  - (Technological) remedies / aids
- If training weak functions:
  - 80% success – check if training has effects
- Focus on comorbidities?

## Some general issues, cont.

- What sources can we trust?
  - Official web-sites:
    - .org and .edu
    - Web sites of patient organizations like CHADD, ADHD Europe, ADHDNorge.....
    - Internet is 90% advertising
  - Be skeptical when:
    - A cure with no side effects
    - Only testimony, or general phrases; "research shows that..."
    - High prices

# PMT: Parent Management Training

- Different names, same theory:
  - Social learning theory, communication theory
  - Structured learning more than sharing of experiences
  - Parent(s) of one child or parent group
  - Homework
- Topics covered:
  - Mechanisms behind problem behavior
  - Building positive relations to the child
  - Constructive ways of praise and reinforcement
  - Clear communication
  - Systematic use of reinforcement
  - Time out and mild punishments – setting limits

# Mechanisms fostering behavior problems

- Biological vulnerability
  - (ADHD, autism, bipolar.....)
- Basic attachment can be weaker than usual
  - Partly because of the temperament of the child.
- Parents less consequent in enforcing discipline.
  - Partly because of the temperament of the child
- Unintentional reinforcement of negative behavior.
- Less involved in their children
- Less reinforcement of positive behavior.
  - "Peace at last", or "gets more hyper when praised" –  
"Nothing to praise – everyone his age..."

# Mechanisms fostering behavior problems, cont.

- Parents accept more negative behavior than they should.
  - To avoid conflicts
- Use more "punishing praise"
  - "At last you managed to....."
- Parents more diffuse and less predictable  
.....
- Parent "pathology" - negative peer models....

# Summary of research on PMT

- Several studies show effect, also long term.
  - See Bloomquist –96, Barkley –95 /-98, Frick –98
- Best effect if children are under 7-8 years and have moderate problems.
- Effects at home do not automatically generalize to school behavior.
- Serious behavior problems should be treated as a chronic disorder.

# Social Skills Training

- Definition
- Principles of training



# Definition and examples:

- Behavior that fosters positive interaction and avoids unacceptable actions.
- Examples:
  - Follow directions – make friends – expressing one's opinion acceptably – react to teasing constructively – anger control – joining other children playing - cooperate - help.....

# Principles of training

- Modeling:
  - Observe and show
- Role playing
- Practicing:
  - Overt behavior – mentally verbally
- Feedback / reinforcement
- Generalization – training; repetitions
- Positive relation to the child
- Motivate the child



Attention and  
motivation

# Problem- Solving Skills Training

Alan Kazdin



# PSST: Problem Solving Skills Training

- PSST complementing PMT
- Stand-alone method when PMT is not possible
- 10 – 20 weekly sessions for child with therapist
- Train to automate problem solving strategies:
  - What is the problem?
  - What are the options?
  - What happens if I choose A or B or C?
  - What happened (afterwards)?



- Ross Greene: The Explosive Child:
  - Some children are highly explosive.
  - They often have diagnosis like:
    - ADHD
    - Tourettes syndrome
    - High functioning autism, Aspergers syndrome,
    - Learning disabilities.
    - Depression – bipolar disorder
  - Often problems with self regulation / executive function”

# Ross Greene: The explosive child

- Chronically rigid and explosive children:
  - Lack flexibility when frustrated.
  - Very low threshold of frustration.
  - Extremely intense emotions when frustrated.
  - Thinking is rigid, concrete, black / white.
  - Not easily influenced by rewards or punishment.
  - Explosions often ”out of the blue”.
  - Inflexibility may be related to certain topics (i.e. food, clothes)
  - Often more extreme when tired or hungry.

# User friendly environment

- Unnecessary frustrations removed.
- You act before, not during or after an explosion.
- You communicate to the child that you understand his/her problems with flexibility and frustration.
- You recognize the signals of danger.
- You don't take attacks personally.
- You don't put fuel to the fire.
- You help the child keep calm when frustrated.
- Adults share a common understanding of the child.

## User friendly environment, cont.

- When explosions threaten:
  - Distract, change the situation, use humor
- You describe the child constructively:
  - Easily frustrated, problems thinking clearly
  - Instead of : Manipulating, bad...
- Helping the child tolerate frustrations requires:
  - User friendly environment
  - (S)he sees you as a helper, not an enemy.
  - Good communication.

# Plan A - Plan B - Plan C

- Plan A:
  - Demands that must be met, even if conflict, no room for negotiations.
  - Use Plan A as little as possible
- Plan B:
  - Most important. Find a solution that is acceptable for parent as well as for child
  - Child has to explain what you want
  - You have to explain to the child what (s)he wants
- Plan C:
  - Demands that can be postponed

# Prioritizing:

- Priority no 1:
  - Reduce explosions to a minimum.
- Handling explosions:
  - Ask the child how when calm.
  - Physical contact and asking "why" often make things worse.
- Plan A:
  - Demand so important that you accept an explosion?
  - Can you follow through?

# ADHD in school

- Be clear and tolerant at the same time
- "Catch them being good"
- Use reinforcement systems
- The amount of work is as important as the level of expectations
- Teachers must know what ADHD is
  - "lazy", "bad will" or "unable to learn control" are not constructive concepts
- "30% - rule"
  - Expectations = Age minus 30%
- Frequent feedback – divide tasks in smaller units

## ADHD in school, cont.

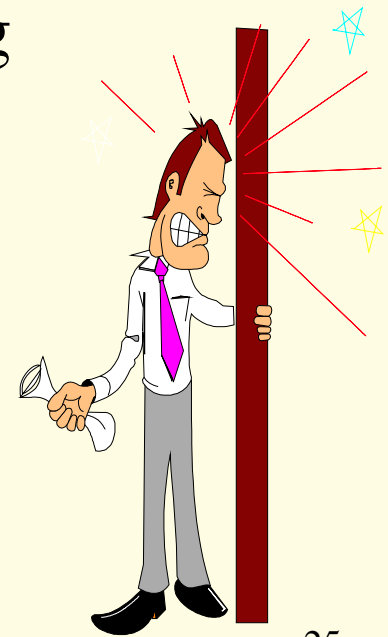
- Prioritize: Academic and social goals
- Find agreements with parents about homework
- Do not overlook the inattentive subtype of ADHD – often passive, dreamy and slow
  - Problems getting started and problems with tempo

# Challenges in school

- Trouble with sustained attention:
  - What do you do? →
- Problems with working memory:
  - What do you do? →
- Reduced processing speed:
  - What do you do? →
- Need frequent feedback:
  - What do you do? →
- Trouble planning and organizing:
  - What do you do? →

## Challenges in school, cont.

- More theory – more years in school – sitting still
- Flexible groups – less structure
- Working in groups; sometimes in open landscape
- Responsibility for one's own learning
- More liberal discipline?



# EEG biofeedback and ADHD

What is EEG biofeedback  
(Neurofeedback)?

How is therapy done?

What are the effects?

# EEG and QEEG

- EEG is registration from the scalp of electrical activity inside the brain
- Neurologists are trained to inspect the raw signals and look for pathology like epilepsy and tumors
- In quantitative EEG (QEEG) signals are analyzed electronically and often compared to a database
  - Relative dominance of certain frequencies
- We look for deviances from norm, not pathology

# EEG and mental states

- The relative dominance of frequency bands (delta – theta – alpha – beta) changes with mental state.
- Training up low beta (13 – 18 Hz) and training down theta (4 – 7 Hz) is often a goal in EEG biofeedback.
- Feedback is PC screen telling you if you are on the right track – changes in bar – points in game...

# Results of EEG biofeedback in ADHD

- Many studies have used selected patients and no control groups; low quality studies
- Recent studies of high scientific standards show that 20 – 40 sessions can have significant positive effects in ADHD – probably long term effects.
- Our pilot study found better results with medication, but some patients seemed to be responders to feedback, and we think some changes will give better results.

# Computerized training of cognitive functions

- Cogmed / Robomemo:
  - Focus on working memory training
- Captains Log / Brain Train:
  - Computerized training of various cognitive functions including attention, memory, logic thinking

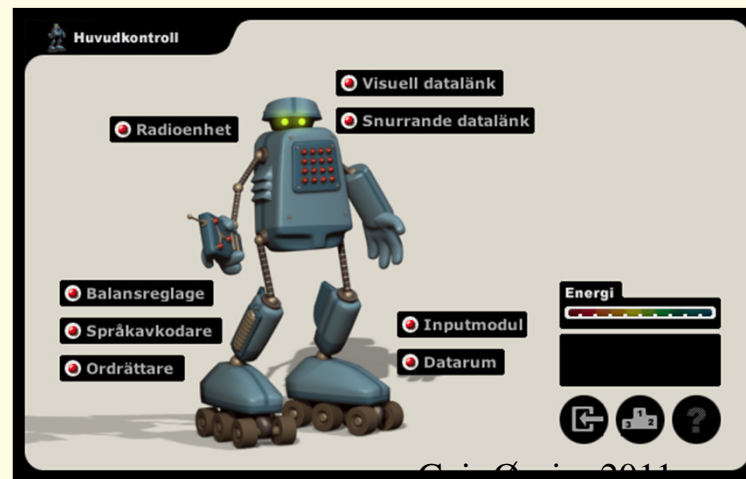


Working memory is the ability to keep a limited amount of information "online" and manipulating it at the same time.

and use that information in thinking

# Results of working memory training in ADHD

- Daily sessions of 45 minutes for five weeks show positive changes in working memory AND attention / ADHD symptoms
- Effects seem to be preserved 3 months later



## NICE guidelines

- Based on systematic reviews of best available evidence.
- Diagnostic recommendations:
  - DSM IV or ICD 10 criteria – leads to impairment – pervasive – assessment of needs and coexistent problems.
- Treatment recommendations:
  - Preschool:
    - PMT and educational programs
    - Not drugs (Drugs not proven efficient for this group)

## NICE guidelines cont.

- School age and young people with moderate levels of ADHD:
  - PMT (behavioral management and relationship building)
  - Social skills training
  - Info to schools. They should apply behavioral interventions
  - Drug treatment when this is not enough
- School age and young people with severe ADHD:
  - Drugs normally first choice
  - Supply with PMT, social skills training..

## NICE guidelines cont. II

- Adults:
  - Drugs (methylphenidate)
  - Psychosocial interventions if wanted by patient
- Dietary advice:
  - Elimination of additives and artificial coloring not generally recommended (lacks evidence)

# ADHD:

Who is responsible for what at which time?

Clinical pathways for children and adolescents  
with ADHD in the county of Østfold - Norway

(**[www.adhd-  
behandlingslinje.no](http://www.adhd-behandlingslinje.no)**)

# Practical advice

## Kenneth: A success story

- Practical advice
  - Experience and some research
- Kenneth: A success story
  - When guidelines are followed

# Resources

- Webster- Stratton: The Incredible Years
- Ross Greene: The Explosive Child
- Russel Barkley: Defiant Children
- **Arns et al (2009):**
  - **Efficacy of neurofeedback treatment in ADHD: the effects on inattention, impulsivity and hyperactivity: a meta-analysis.**
- **[www.cogmed.com](http://www.cogmed.com)**
- **[www.braintrain.com](http://www.braintrain.com)**