

Treatment of ADHD

Tallinn 2015-10-02

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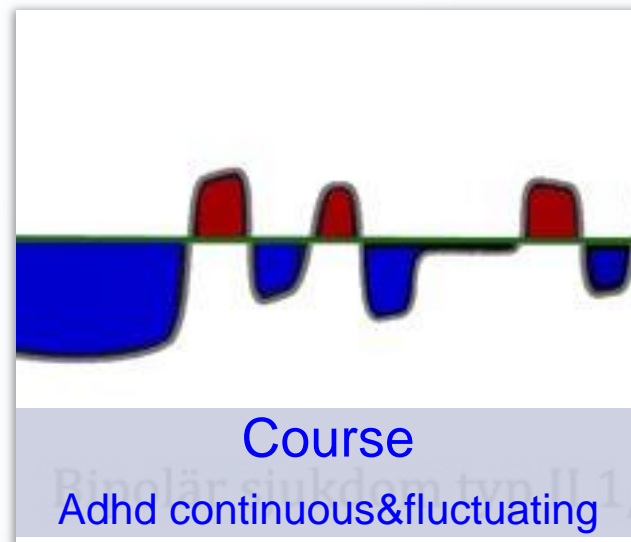
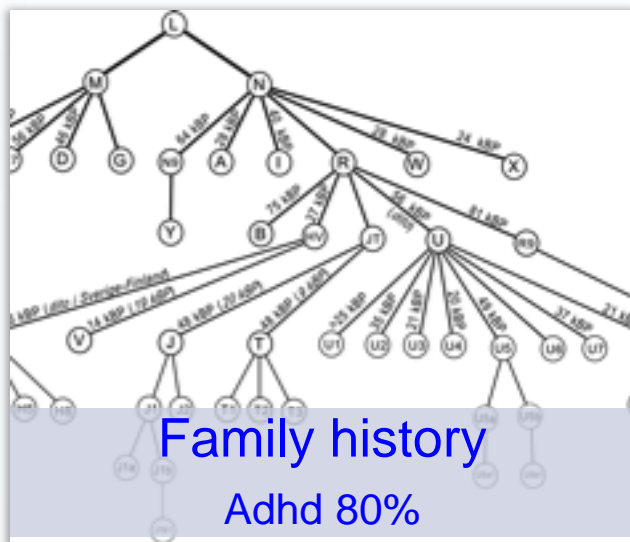
Assessment first!

- The crucial question:

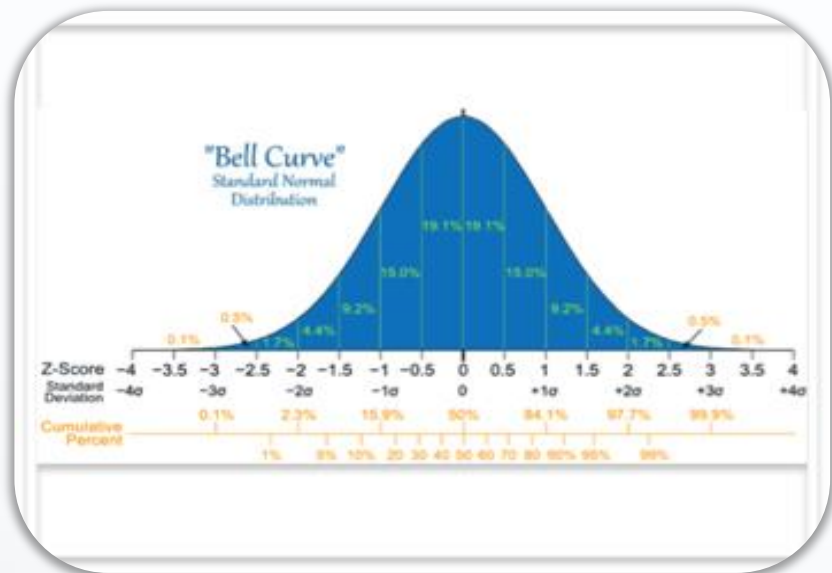
Do I have the right patient for this treatment?



Making the diagnosis- look at all pieces that makes it up



Making the diagnosis – be cautious and consider...



Adhd is normally distributed

- Less extreme =
+ numbers
- diagnostic clarity
- response to medication



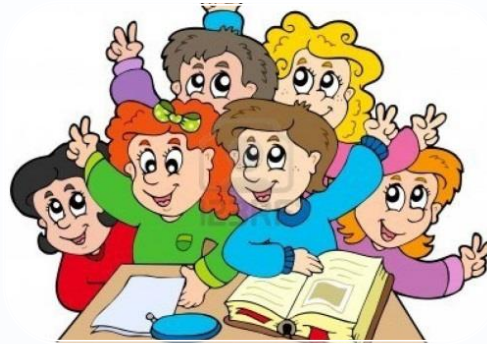
Multiple informants

give you a better indication of
your position

Adhd –how does it affect functioning=how severe?



At home



At school

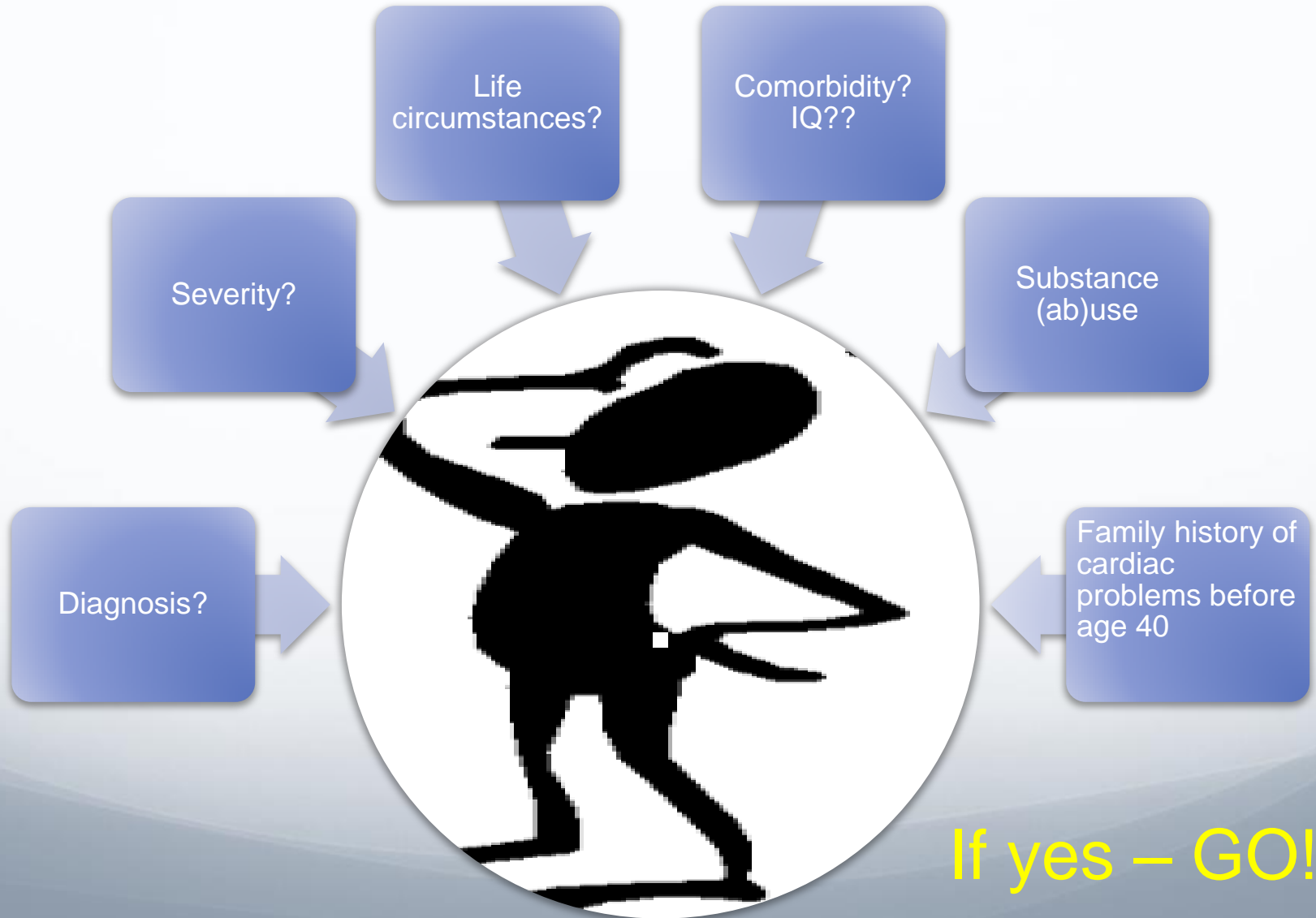


With friends

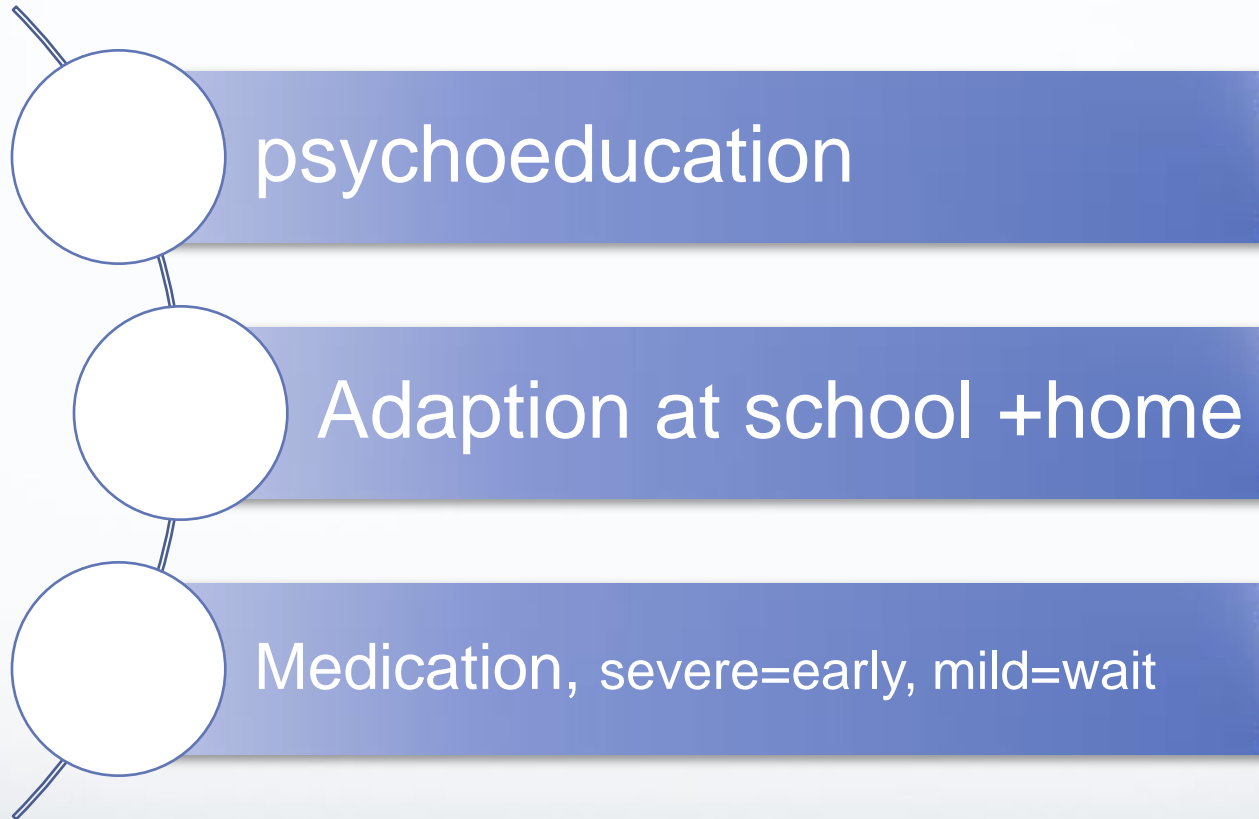


At activities

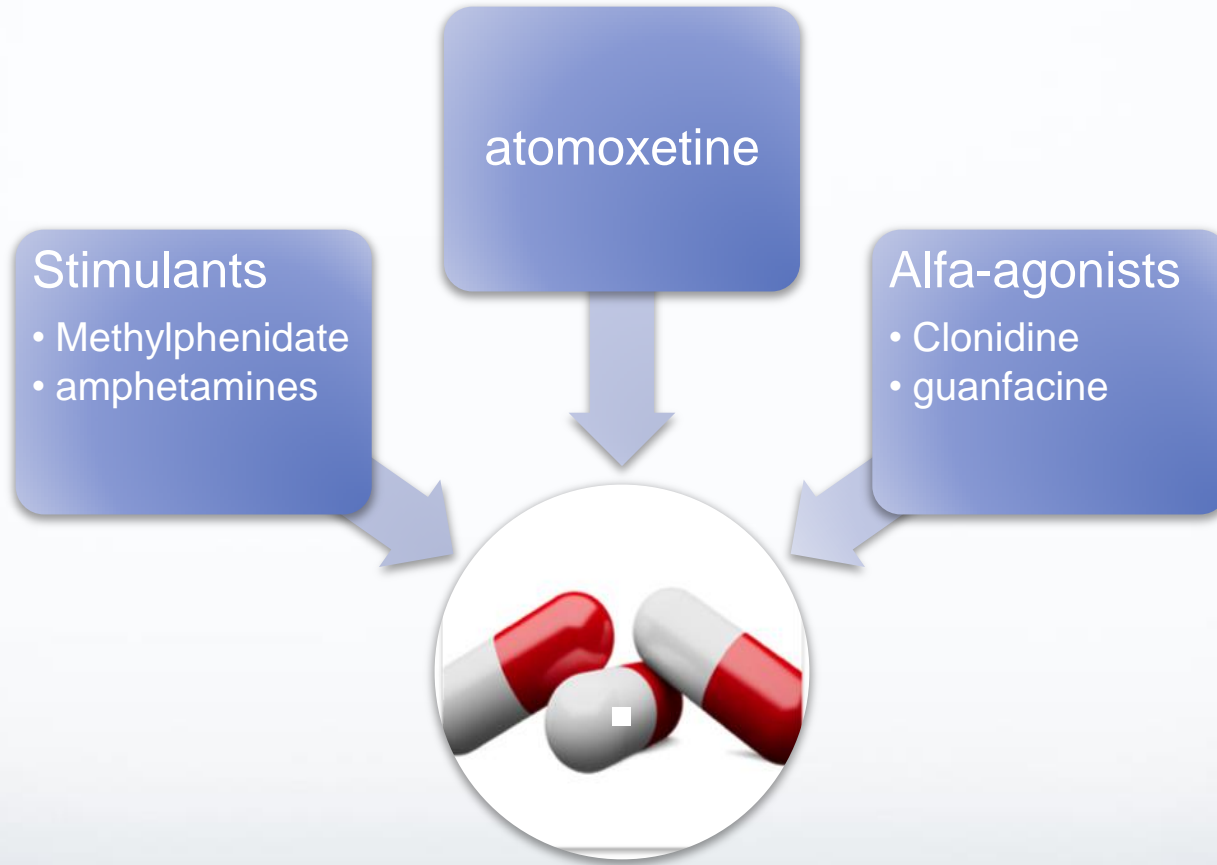
Do I have the right patient for this treatment?



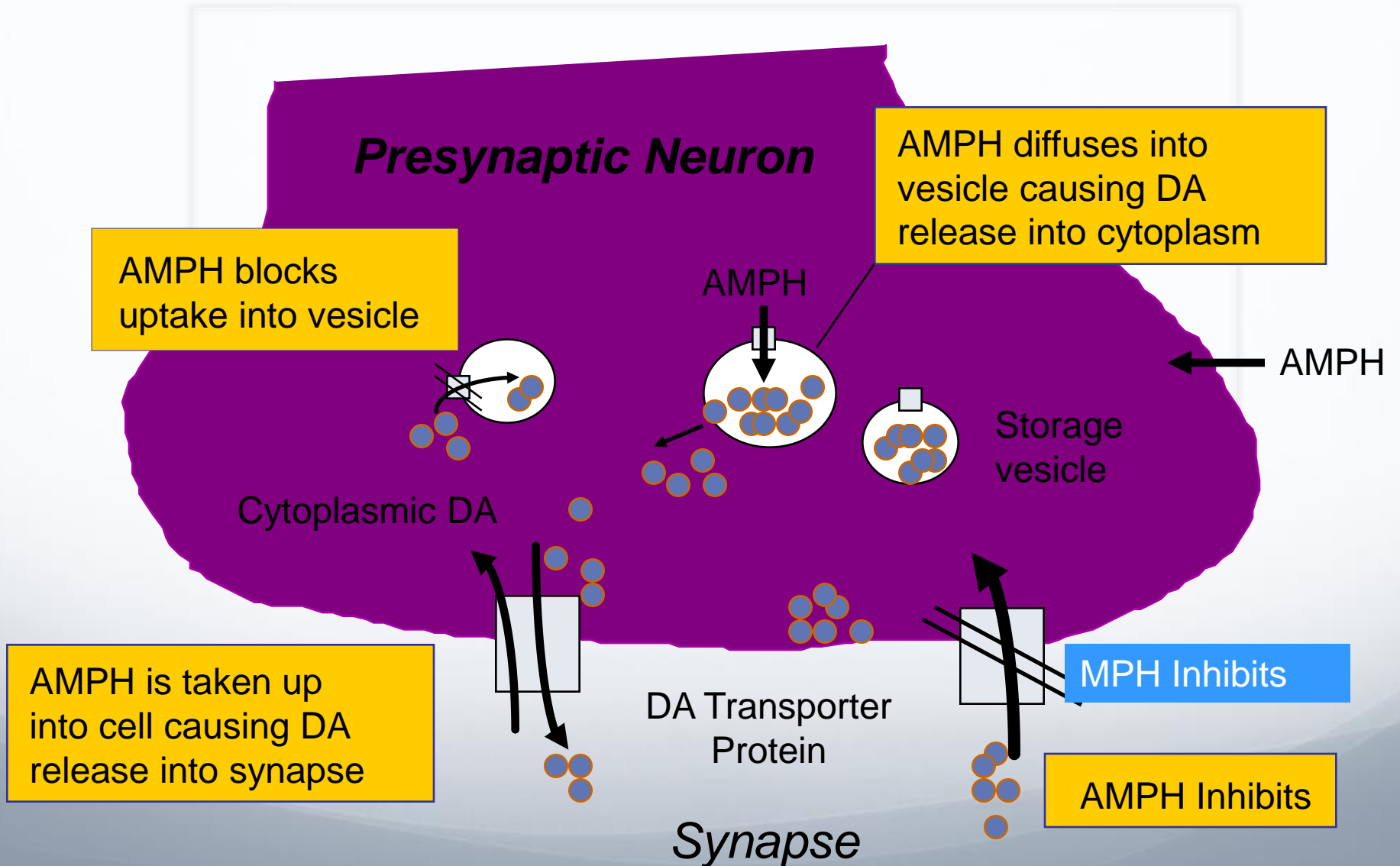
ADHD treatment



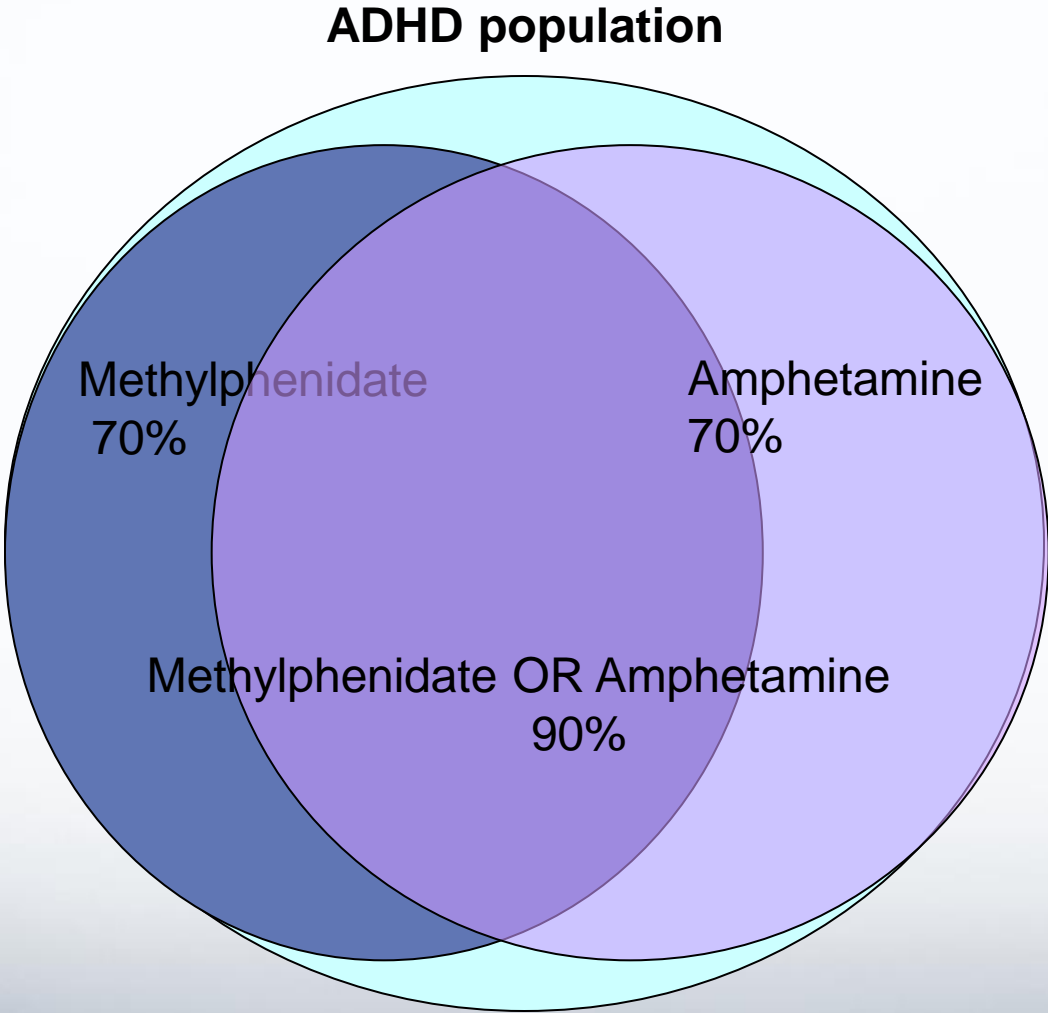
Adhd – the medicines



The Mechanisms of Action of Stimulants



How many patients with adhd responds to stimulants?



Stimulants are very effective in reducing ADHD

lisdexamphetamine vs placebo vs mph (concerta)

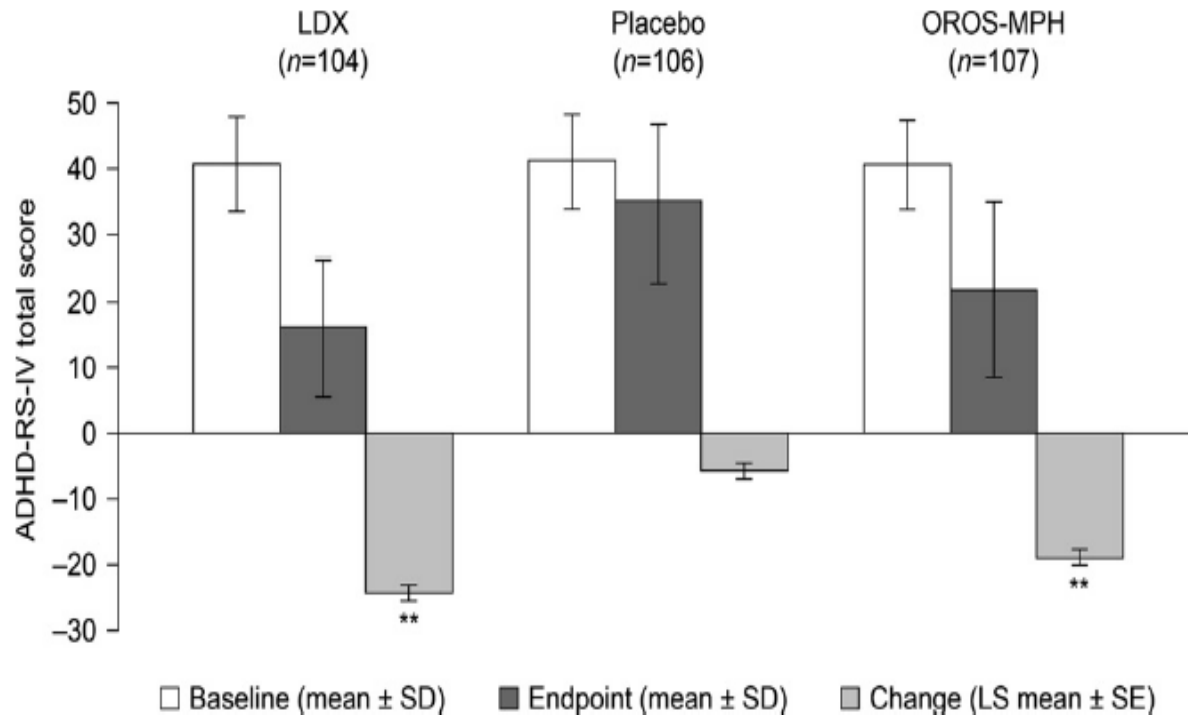
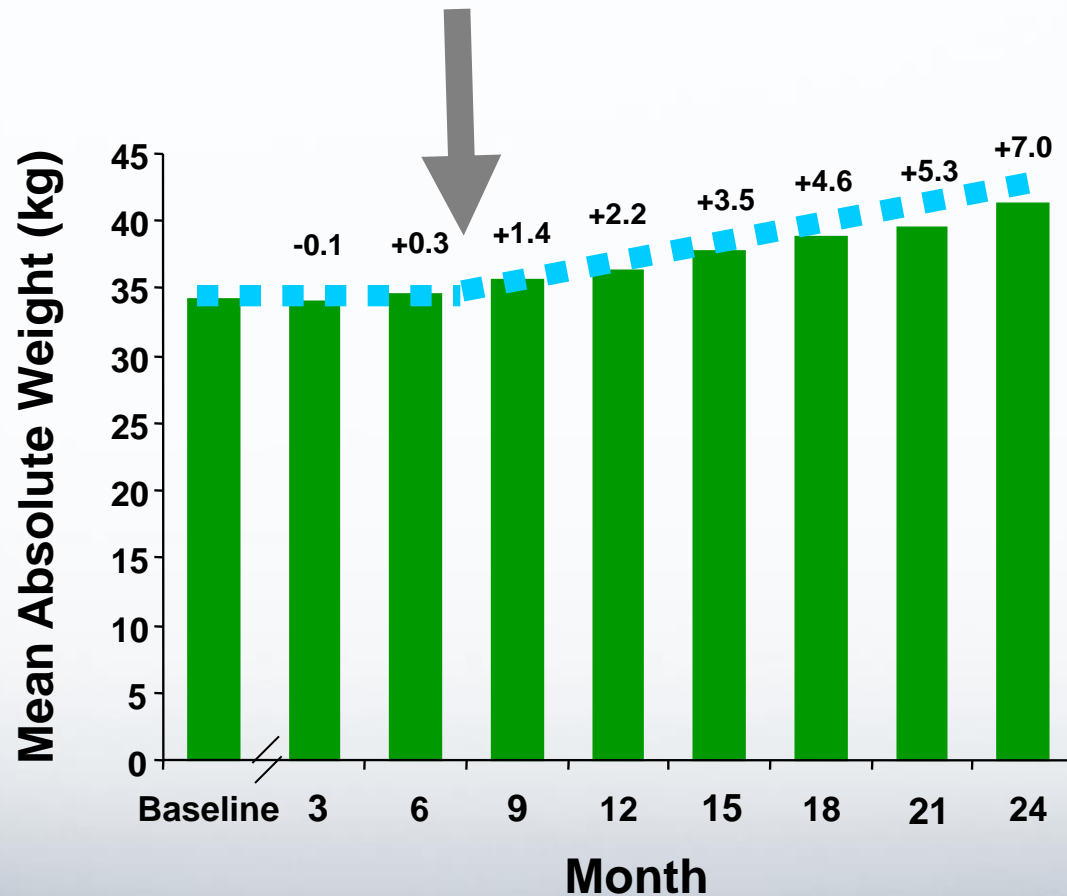


Figure 2 ADHD-RS-IV mean total scores at baseline and endpoint (\pm SD), and LS mean changes (\pm SE) from baseline to endpoint (full analysis set). ** $p < 0.001$ based on difference in LS mean change (active drug–placebo). Endpoint is the last on-treatment, post-baseline visit of the dose-optimization or dose-maintenance period (visits 1-7) with a valid ADHD-RS-IV total score. A decrease from baseline in the ADHD-RS-IV total score indicates an improvement in ADHD symptomatology.

Stimulants and side effects

- Loss of appetite & weight
- Insomnia
- Dysphoria & irritability
- Headache & abdominal pain
- Tics & dyskinesia
- Tachycardia & hypertonia
- Psychotic symptoms

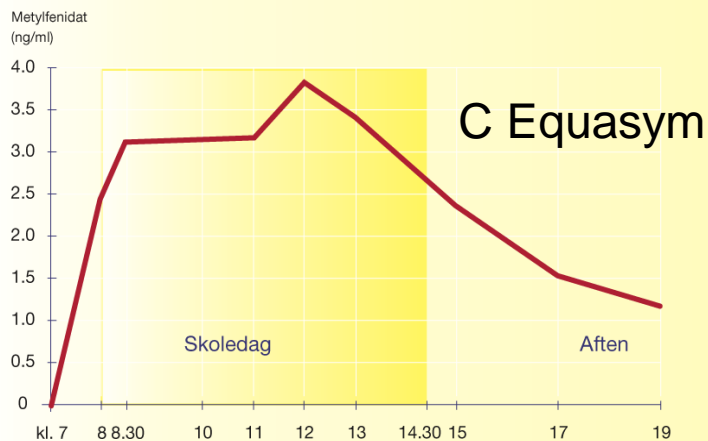
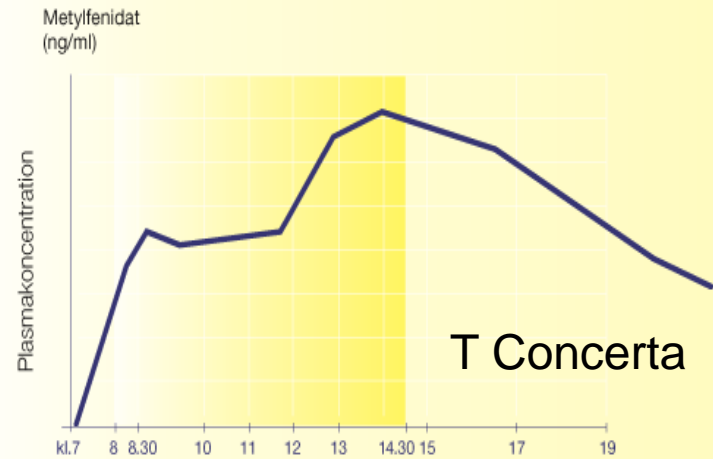
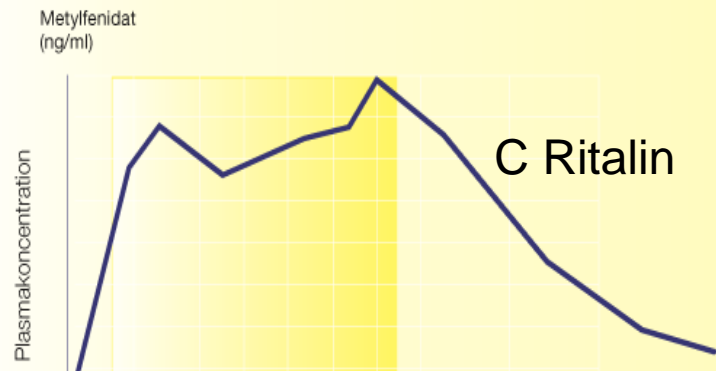
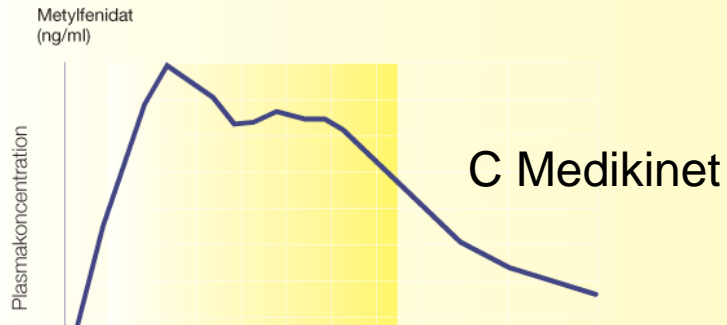
Stimulants and impact on Growth-Weight



Stimulants and monitoring..

- Growth – accept -0.5 sd in age-adjusted height
- Heart
 - blood pressure = usual age adjusted limits
 - Pulse rate;
 - resting 90 but in office..100-110.
 - In doubt make Home assessment!

Stimulants and dosing



Tailor the dosing

- What is the individual need
 - Worst in the morning?
 - Only for school??
 - Afternoons?
 - Can't eat enough??
 - Handle the rebound???
- Dosing
 - Preschool 0,75 mg/kg
 - Adolescents & adults 1-1,3 mg/kg range – 2 mg/kg but sometimes higher
 - Tips:
 - short acting before waking up for calm mornings or
 - split doses of concerta for calm evenings without rebound
 - Extra short acting for special occasions
 - Lower/shorter duration during weekends

Amphetamine

- 2nd line
- Sometimes better and less dysphoria
- Greater risk of abuse with short acting
 - use lisdexamphetamine.
 - Prodrug with duration 13 hrs
 - 30-50-70 mg

Atomoxetine- 2nd line

The pros

- 24 hrs duration
- Non stimulant=no abuse
- Can be combined with a stimulant
- For comorbid adhd
 - Anxiety & sleep
 - Disruptive

The cons

- Somewhat lower effect
- Somewhat more side effects
- Interactions on Cyp2D6
 - Fluoxetine makes ++atm
 - QTc risk if atm is added to antipsychotics

Alfa-agonists 2nd line

clonidine and guanfacine

The pros

- Very good combo with stimulant
- Works best for hyperactivity & aggression & sleep
- 1st line for tics
- Best tolerated
 - SE: sedation, headache, ortostatic BP

The cons

- Somewhat less effective
- Clonidine very sedative
 - Super for sleep and relax
 - Not for school
- Guanfacine expensive

Side effects of ADHD meds

Side effect	MPH	AMPH	ATMX	α-2 AGONIST
Appetite decrease	+	+	+	-
Abdominal pain	+	+	+	-
nausea	+	+	+	-
irritability	+	+	+/-	+/-
Somnolens	+	+	+	+
insomnia	+	+	-	-
Emotional lability	+	+	+	+
sadness	+	+	-	-
Tics	+	+	-	-
vertigo	+	+	+	+
tachycardia	+	+	+	-
+blood pressure	+	+	+	-

1. Pelham pediater 2001, 2. Stein pediater 2003, 3. Swanson pediater 2004, 4. Wolraich pediater 2001, 5. Pelham pediater 1999, 6. Biederman pediater .2002, 7. Mc Cracken JAACAP 2003, 8. Michelson AJP 2007, 9. Spencer J ClinP 2002, 10. Michelson Pediater 2001, 11. Kelsey Pediater 2004, 12. Sallee et al JAACAP 2009, 13. Jain et al, 14. Connor et al CNS Drugs 2010. 15 Fass, Swe pharmacopedia

Combining meds?

- Stimulant + alfaagonist
 - Approved combo in the US
 - No interactions
 - Added benefit but side effects doesn't add up
- Stimulant + atomoxetine
 - Some evidence,
 - no interactions,
 - added benefit + side effects
- Atomoxetine + alfa agonist
 - No studies,
 - Pharmacodynamically questionable
- Stimulant + neuroleptic
 - 3-4line if adhd,
 - works for severe aggression and tics (risp, ari) or severe sleep (que)
 - Metabolic side effects of neuroleptic are not balanced by the stimulant-monitor!!
- Stimulant + melatonin
 - 1st line and
 - Good for sleep
 - No interactions and few side effects

Treatment refractory adhd

- 30% either doesn't respond to or tolerate a stimulant
- Try 2nd line = alfaagonists or atomoxetine
- Reassess!!
 - Comorbidity?
 - Prodromal disorder (schizophrenia, personality)
 - Drug ab(use)

