The importance & challenges of transition

Susannah Rowles

Consultant Pennine Acute NHS Hospitals Trust Manchester

ABCD Honorary Secretary

Association of British Clinical Diabetologists

Learning outcomes

- Definition of transition
- Why it matters
- Why it's so difficult
- Some practical tips

Definition

The period of time during which there is planned, purposeful and supported change in a young adult's diabetes management from child orientated to adult orientated services, mirroring increasing independence and responsibility in other aspects of their life."

Adolescence…….developmental epoch which children become adults intellectually, physically, hormonally and socially

Hazard ratios of death with diabetes versus without diabetes

	20-39 yrs	40-59y rs	60-79 yrs
male	2.54	2.17	1.91
female	3.76	2.54	2.53

YHPHO 2008

Age of diagnosis matters:

- If $\Delta \leq$ 10yrs old decrease in life expectancy by 16 yrs
- If $\Delta \geq$ 16yrs old decrease in life expectancy by 10 yrs

14th annual National Paediatric audit 2016/17

- Inequalities in treatment widening at both ends of the deprivation scale

- Poorer outcomes associated with: white ethnicity, adolescence, female sex, living in deprived area

- Rising rates of type 2 diabetes with greater incidence of micro & macrovascular disease than type 1 –

46% hypertension

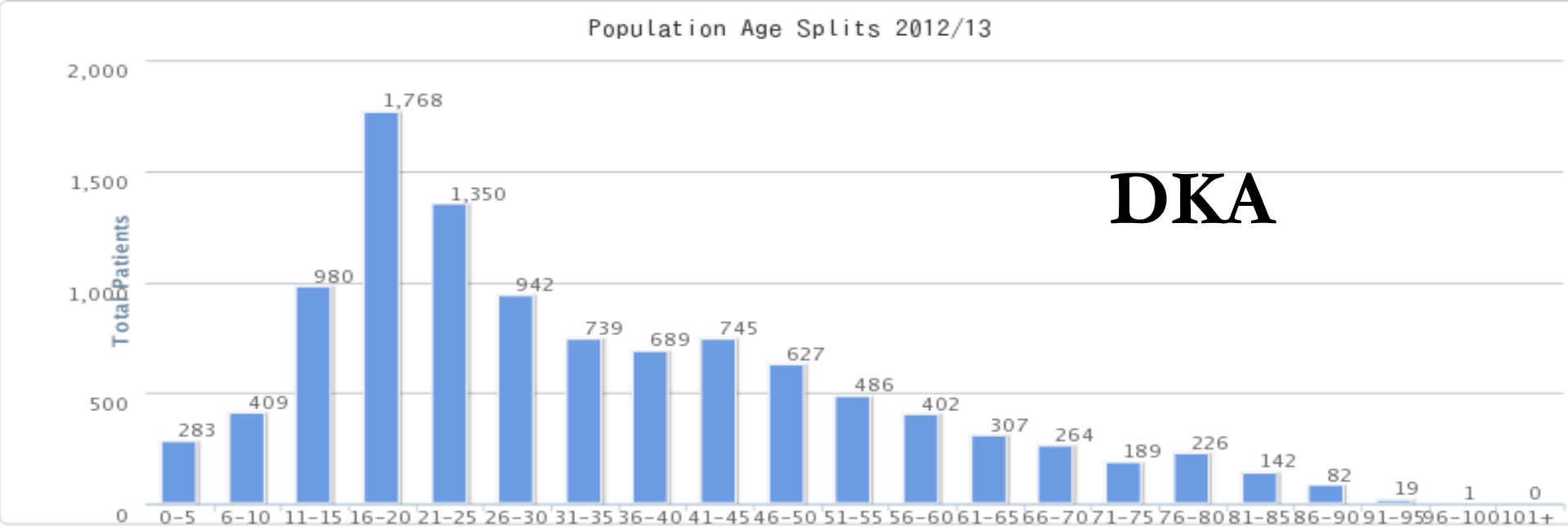
20% albuminuria

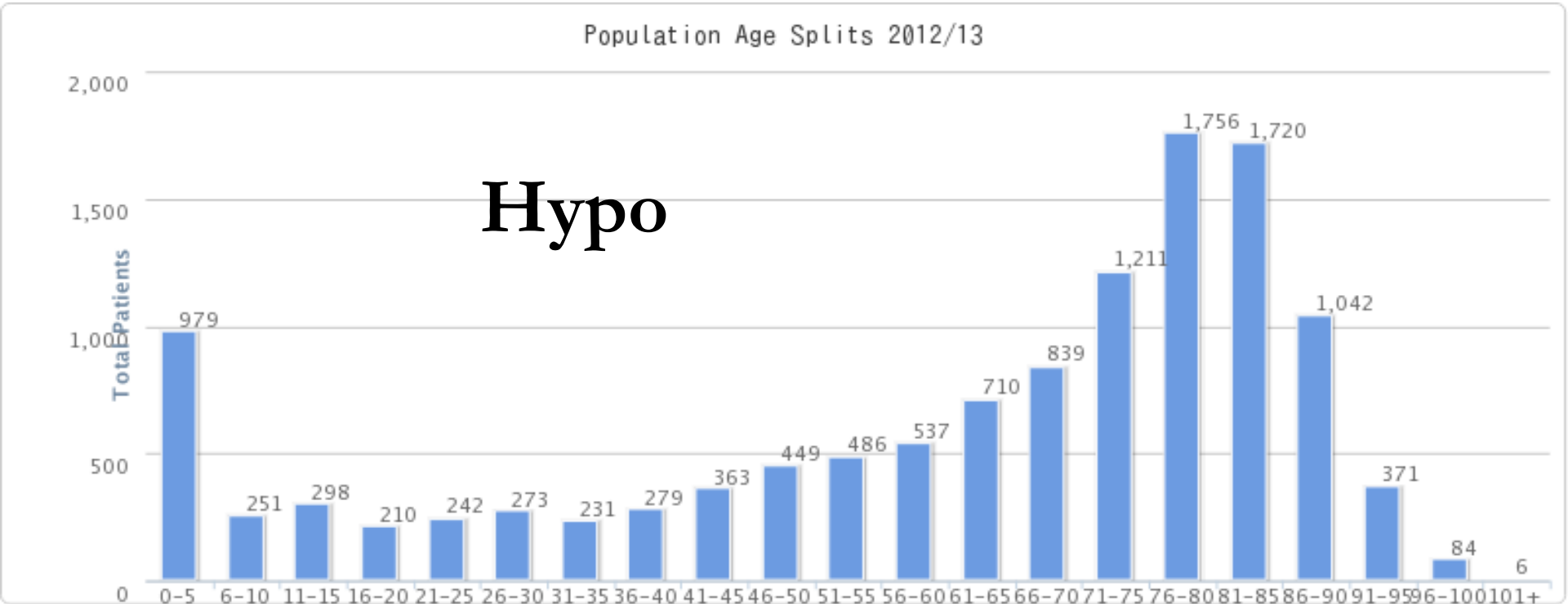
5% abnormal eye screening

33% raised lipids

715 individuals 206/17 compared with 77 2015/16

DUK estimate 7,000 under the age of 25yrs


Population Age Splits 2012/13
DKA
Total Patients
2,000
1,500
1,000
500
0
283
409
980
1,768
1,350
942
739
689
745
627
486
402
307
264
189
226
142
82
19
1
0
0-5
6-10
11-15
16-20
21-25
26-30
31-35
36-40
41-45
46-50
51-55
56-60
61-65
66-70
71-75
76-80
81-85
86-90
91-95
96-100
101+


Population Age Splits 2012/13
Hypo
Total Patients
2,000
1,500
1,000
500
0
979
251
298
210
242
273
231
279
363
449
486
537
710
839
1,211
1,756
1,720
1,042
371
84
6
0-5
6-10
11-15
16-20
21-25
26-30
31-35
36-40
41-45
46-50
51-55
56-60
61-65
66-70
71-75
76-80
81-85
86-90
91-95
96-100
101+


HORMONES/ HEREDITITY
PARENTS & CAREERS
SEARCH FOR "SELF" / INCREASING AUTONOMY
SOCIAL/PEER PRESSURE
ENVIRONMENT
DRUGS / ETOH

TOP WORRIES

Exams

"Belonging"

Body image

Overscheduling

Family conflict

Relationships

The future

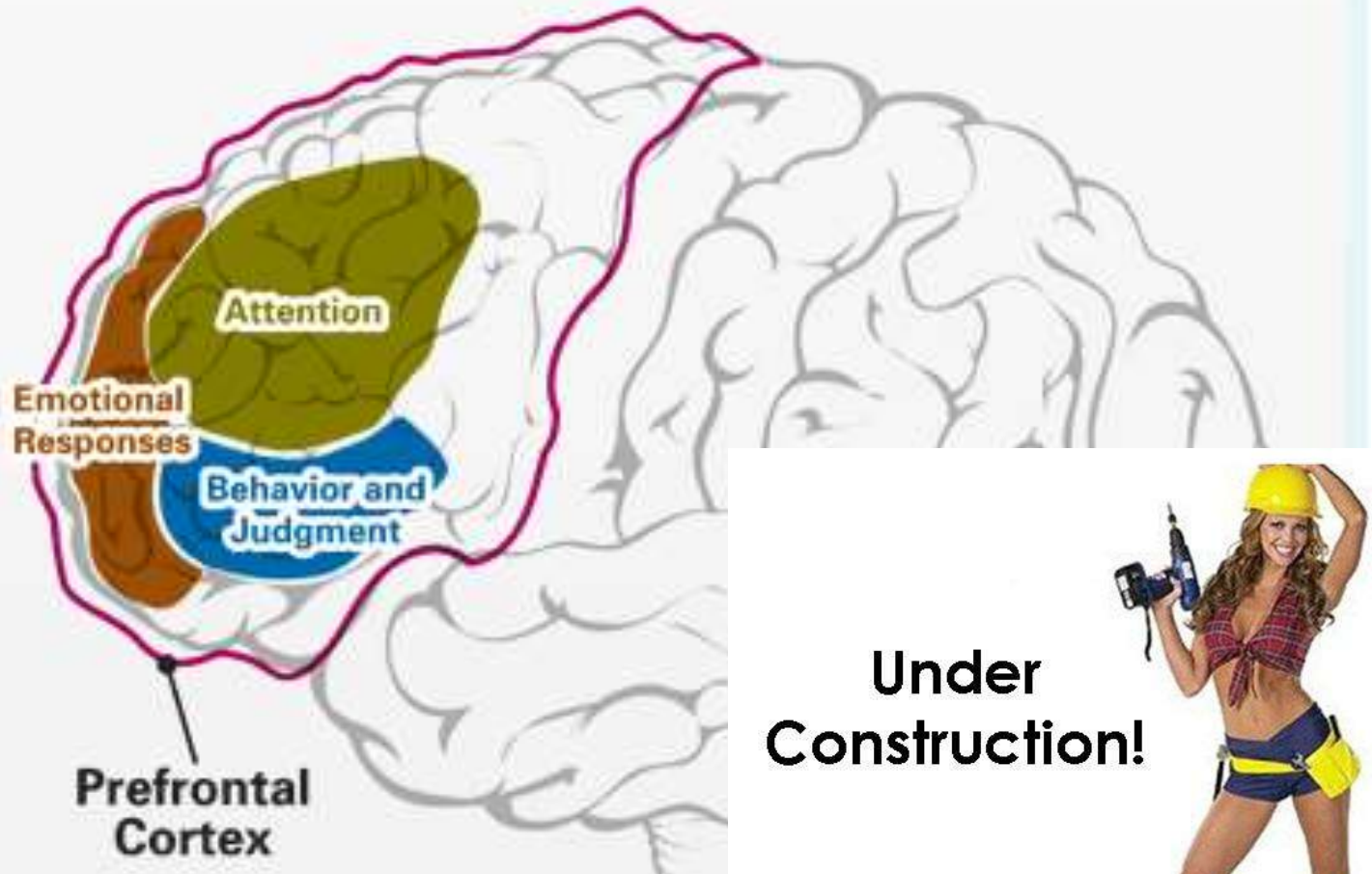
.....and diabetes

Why it is so hard

Or……

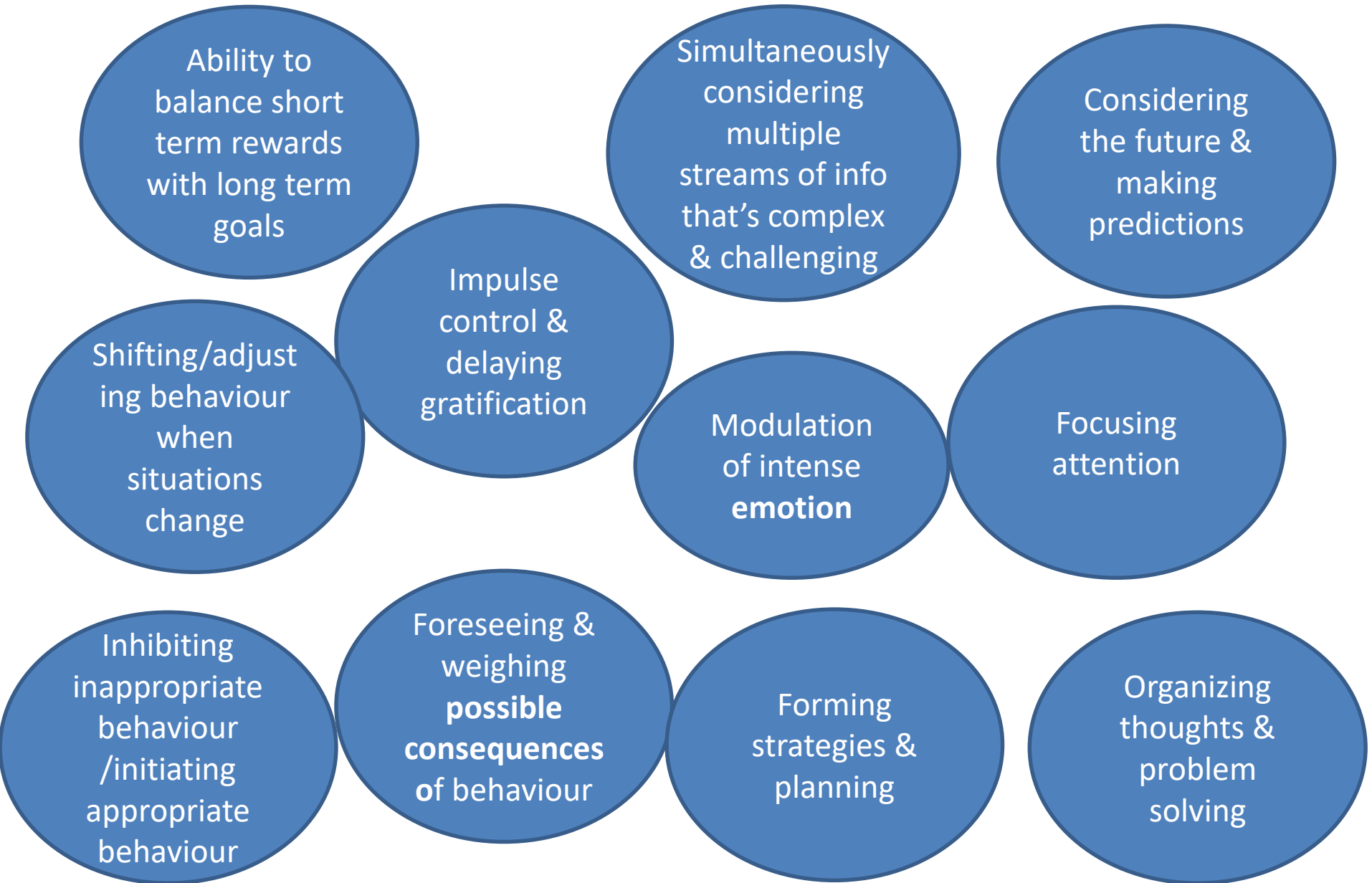
Good excuses for teenagers to give

Neurobehavioral, morphological, neurochemical & pharmacological evidence of brain maturation



Under Construction!

Executive prefrontal cortex functions

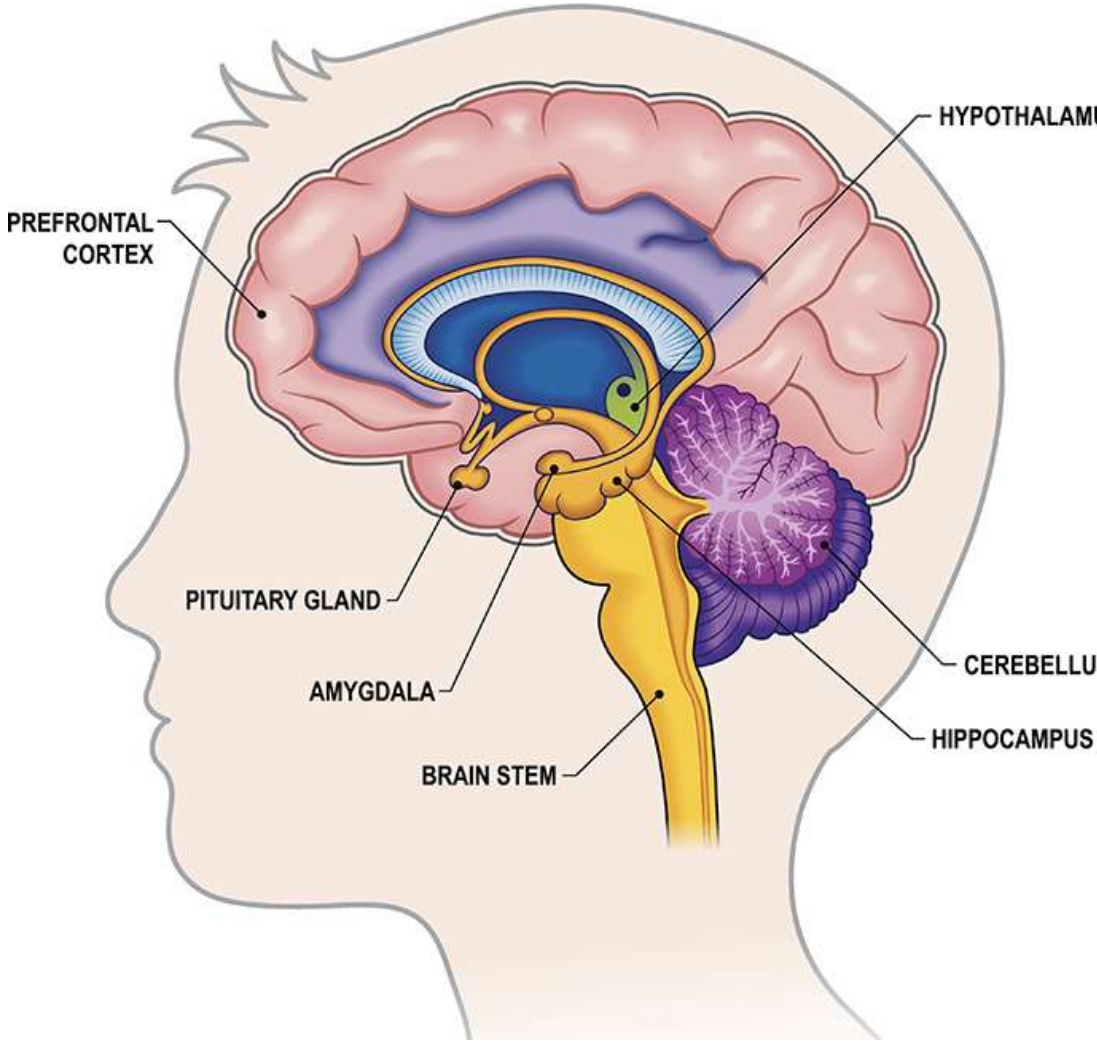


THE LIMBIC SYSTEM

Involved in expression & motivation related to survival:

- Fear, anger, flight / flight response
- Eating, sex
- Memory retrieval of events that have provoked a strong emotional response

Adolescence are more likely to rely on their emotions to make decisions



Pre frontal cortex vs limbic


BENSON & HEDGES
Smoking kills
UK DUTY PAID
5014 3306
Smoking clogs the arteries and causes heart attacks and strokes


STOP CLIMATE CHANGE
BEFORE IT CHANGES YOU.


facebook


SKOLSTREJK
FÖR
KLIMATET


JUMBO

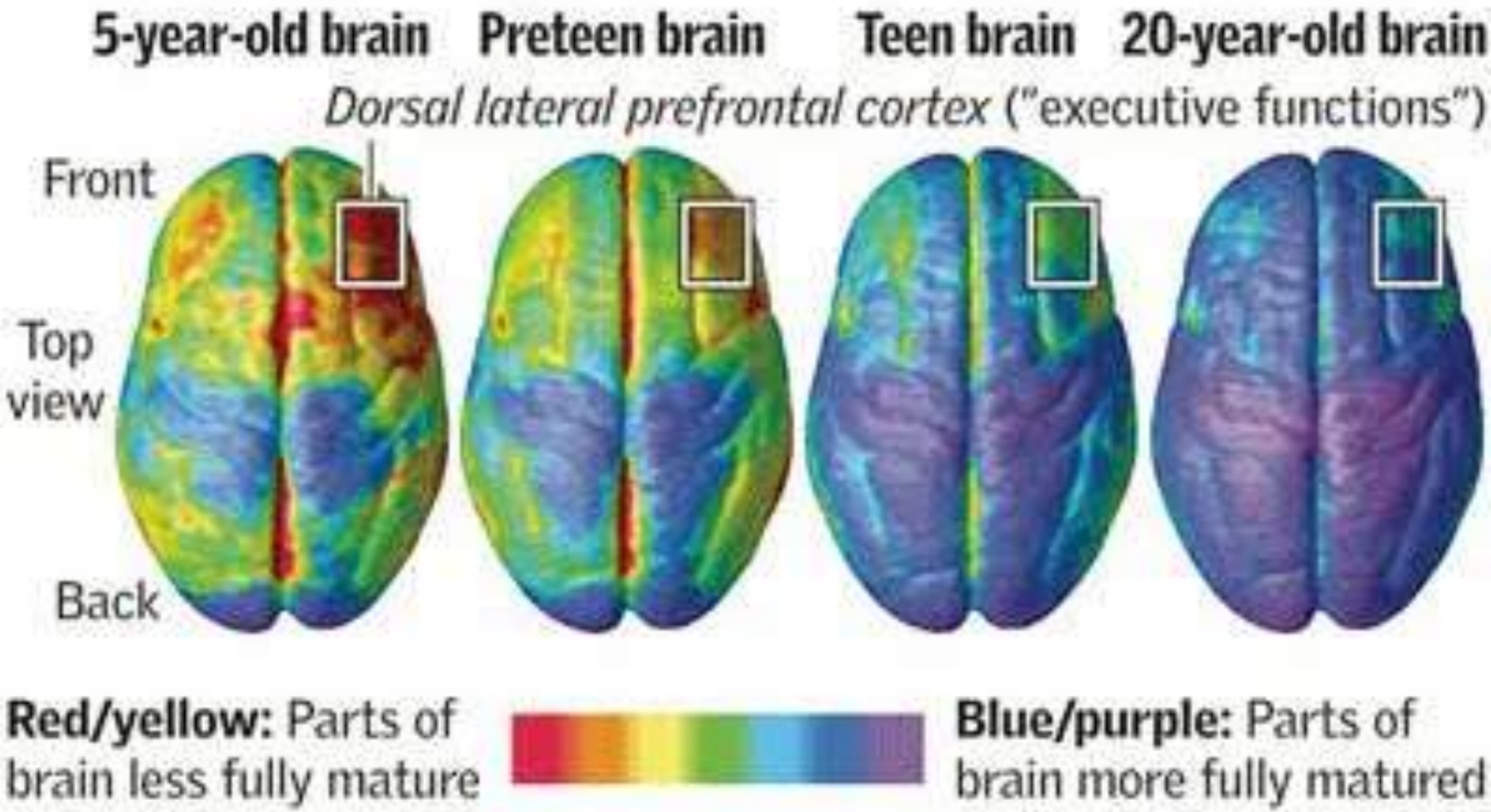
From here to maturity!

Adolescent brain has greater capacity to:

- Learn and create (neuroplasticity)
- More prone to risk taking / impulsive behav
- More prone to damage from drugs
- Higher risk of addiction
- Higher risk of mental illness

Laying down of myelin - necessary for proper nerve insulation & effective neurocybernetics

Excess grey matter is "pruned out"



Sources: National Institute of Mental Health; Paul Thompson, Ph.D., UCLA Laboratory of Neuro Imaging

Thomas McKay | The Denver Post

Vital ingredients for myelinogenesis

Yin & Yang of nerve dialogue

- Glutamatergic neurotranmission predominates – major excitatory neurotransmitter

- GABA (gamma aminobutyric acid) neurotransmision is still under construction - major inhibitory neurotransmitter

VS

Other important neurotransmitter changes in adolescence

DOPAMINE ↓	SEROTONIN ↓	MELATONIN ↑
Movement control Emotional response Ability to experience pain / pleasure	Mood alteration Anxiety Impulse control Arousal	Circadian rhythms Sleep-wake cycle
Mood swings Difficulty regulating emotion	Decreased impulse control	Increased need for sleep

+ oestrogen
progesterone
testosterone

What works?

- **Cultural *continuity***

Minimising the differences between paed & adult culture

- **Disease management *continuity***

A common purpose & plan shared between team members

- **Information *continuity***

Approaches to info giving & materials consistent between paed / adult teams

- **Developmental *continuity***

Proactively encouraging the young person to grow into a more independent adult

- **Flexible *continuity***

Support responsive to individual needs

Allen D et al 2010

"I lift, you grab. ... Was that concept just a little too complex, Carl?"

Hints for the High HbA1c Transition & Young Person Patients

- If the pt is on once daily lantus with suboptimal control consider swop to Tresiba
- Is the pt on lantus twice a day, if so consider change to bd levimir twelve hours apart or to once daily Tresiba
- If the pt does a lot of exercise and is on lantus or Tresiba consider swop to bd levimir twelve hours apart
- Does the pt wait 10 minutes between injecting the rapid acting insulin and eating? If not, ask whether this habit can be changed or suggest swopping to fiasp unless pt has very high fat / protein meals
- Ensure injection sites are rotated – have a look yourself don't just ask
- Ensure fresh needle is used for every injection

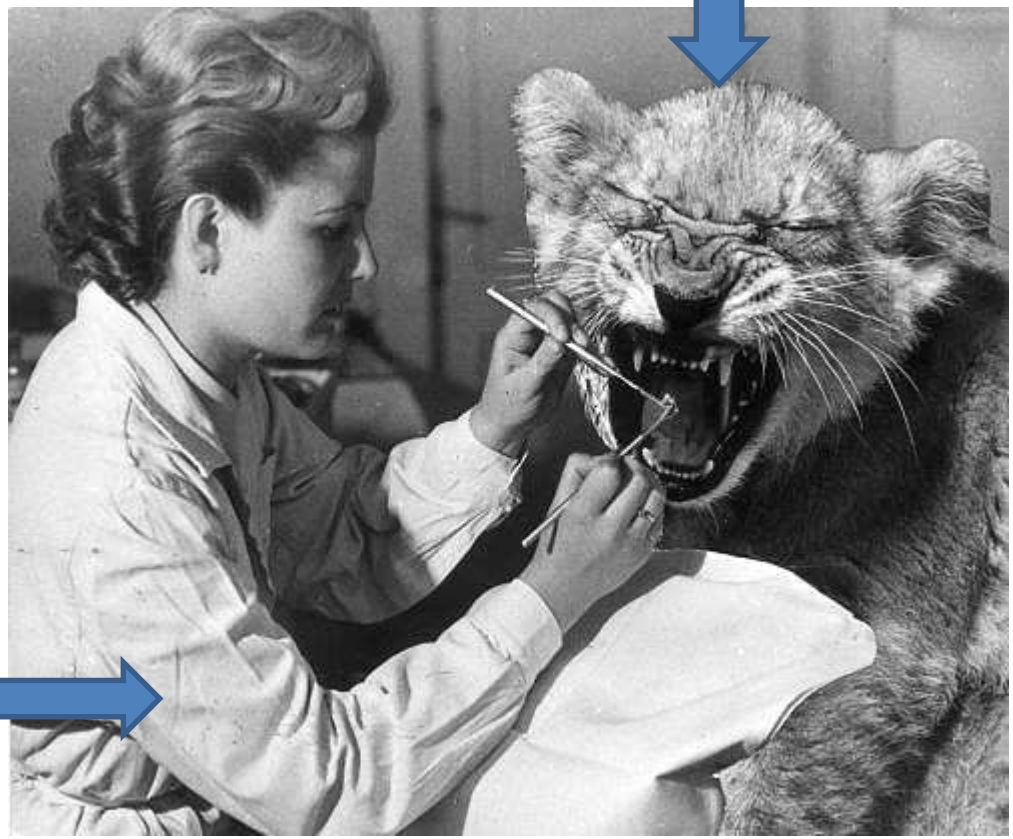
Hints for the High HbA1c Transition & Young Person Patients:

- Never correct for hyperglycaemia after consuming alcohol & explain risk of severe hypos (often delayed) after XS ETOH
- Remind female with type 1 diabetes that they are as fertile as people without diabetes so need to use robust contraception. Mention need for high dose folic acid and “as near perfect as possible” HbA1c control at time of conception.
- Risk of passing on type 1 to your children if you are male is 1 in 17, if female and you have your child before you are 25 the risk in 1 in 25, if you’re > 25 when you have the child is 1 in 100
- Explore attitudes to use of “libre” devise & pump therapy
- If aged > 17 yrs explain DAFNE course and offer DAFNE dates
- Ask re plans for driving – offer DVLA info if appropriate
- Ask on a scale of 1-10 how unhappy / happy the pt is, sign post to CAMS / Low level Ψ intervention if <6. If <4 address more fully.

“Parent-ectomy”

PARENT/PAEDIATRICIAN

DIABETOLOGIST



Thank You for listening!

ABCD

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