

Info for parents

Teenage Brain Development

Over the last 10 years brain scans (MRI) have told us more about how teenager's brains function differently to adult's brains.



Knowing more about how the teenager's brain works can help adults to understand their behaviour better – why they can be impulsive, need to sleep **a lot**, be emotional, rebellious, take risks, be disorganised, distracted and late!



Teenagers may look physically mature but their brains are still developing into their early twenties.

Adults use the front part of their brain (frontal cortex) to think, assess and plan. By using brain scans, researchers have found that the front part of teenagers' brains is underdeveloped.

Teenagers use an emotional part of the brain (the amygdala) more than adults.



Sleep

Teenagers need at least 9 hours sleep to be optimally alert

Changes in sleep patterns are linked to puberty and changes in hormones



Teenagers are growing very quickly in a short time

Puberty is a time when teenager's physical growth speeds up and this is controlled by the release of growth hormone, girls about 11 years, boys about 14 years.

To grow this quickly they need to make more growth hormone in their body



Growth hormone is released during sleep

In teenagers the sleep hormone (melatonin) is released about 1am compared to 10pm in adults.



Teenagers will continue with this sleep pattern until they have finished puberty. Near the end of puberty they will change to an adult pattern. For girls this is around 19.5 years of age. For boys this is around 21 years of age.

What can you do to help your teenager?

Even though your teenager's body is changing, bedtime routines and having ways to settle off to sleep are still important.

Try to encourage a regular bed time that is not too early.

We all know the things that can be helpful to get to sleep: a routine leading up to bedtime, calming down, quiet and darkness, but you might just need to adapt these things to be more in tune with your teenager.

Try to keep calm: just as when they were younger they will rely on you to help them stay calm.

Keep their bedroom cool.

Encourage a calm down time such as agreeing a time to stop using the computer and TV.

Reduce lighting - Having dimmable lighting or small lamps can be helpful.

Can teenagers tell what you are feeling by the look on your face?

In teenagers, the part of the brain that controls speech and interprets facial expressions and emotions (the amygdala) is also the part of the brain we use when we are in danger.

This means that they get muddled up!

There was an experiment to see if teenagers and adults recognised an expression in the same way.

Researchers asked 'What is this person feeling?'



100% of **Adults** were correct.
They said **FEAR** correctly.

Only **50%** of **Teenagers** were correct.

The other 50% of teenagers said another emotion, such as anger, shock, sadness or confusion.

Some said they didn't know. It was surprising that even fairly sophisticated teenagers got it wrong.

Teenagers use the emotional part of the brain (amygdala) more often.

What does this mean?

- When teenagers look at a person's face to work out what they are feeling they may misinterpret what the person is feeling
- The teenager's brain is relying on the emotional part of their brain to work out what to do rather than the thinking part of the brain
- This may lead to more impulsive behaviour rather than thoughtful behaviour
- You may be feeling one way but your teenager may think you are feeling something else

What can you do to help your teenager?

Check out that what you think you have communicated to your teenager is actually what they have understood from you.

If you think they haven't understood, help them out by saying in a clear way how you feel, as well as showing it by your facial expression.

Notice when they are feeling stressed or worried and let them know you have noticed.

Teenagers and taking risks

Taking risks in the teenage years is a normal part of their development. It is part of them becoming an adult. When they are calm, teenagers can make sensible decisions, but there are some things that we know have an effect on how they make decisions about risks.

Teenager's brains are wired to need more rewards to make them feel excited, so the thrill has to be bigger.

Their brains are wired to take more risks when they are with their friends and they are worried about what their friends might think even if they are not with their friends at the time they are taking the risk.



What can you do to help your teenager?

You can help your teenager by being the person they can come to when they are unsure what to do.

They may not appear to take notice but if you are calm and talk it through with them they are more likely to have the confidence to say 'no' when they know they are in danger.

Teenagers and friends

The teenage years are an important time when adolescents are learning more about relationships and friendships.

But again their brain development can make it difficult for them to think clearly at times.

Teenager's brains have still not finished developing.

They may sometimes appear to become overwhelmed by something that has happened with their friends, especially if they feel left out or rejected.

This is because the part of their brain that makes sense of situations is still not developed and the part of their brain that feels strong emotions is very active.

So as an adult we might be able to see that there is a good reason why they haven't been invited to a party, but they might feel it is the end of the world.

What can you do to help your teenager?

Use what you know about your teenager to help them calm down. Sometimes, just as when they were younger, they might need longer to calm down.

Teenagers are still learning about emotions and relationships and still need your help.

Help them to make up when things go wrong.

Acknowledge how they feel. When they seem calm, you could see if there might be a reason for the situation (e.g. I wonder if...). If you can help your teenager to calm down when they feel so strongly, they are more likely to be able to decide what they want to do next.



The positives

There are positive aspects of teenage brain development.

- Their brains are growing at a rapid rate and have enormous potential
- They are more open to ideas, amenable to change and less set in their ways

With support and understanding from you and other adults around them:

Their brains will mature and they will eventually function as a responsible adult.

They will be more able to organise and plan.

Their sleep pattern will change and they will get up for work.

And finally they will hopefully...

Tidy their bedroom!.....we wish!

