

## Adolescent Development

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During adolescence the body and brain go through a physical and emotional journey, transforming a child into a skilled, independent and self-controlled adult.

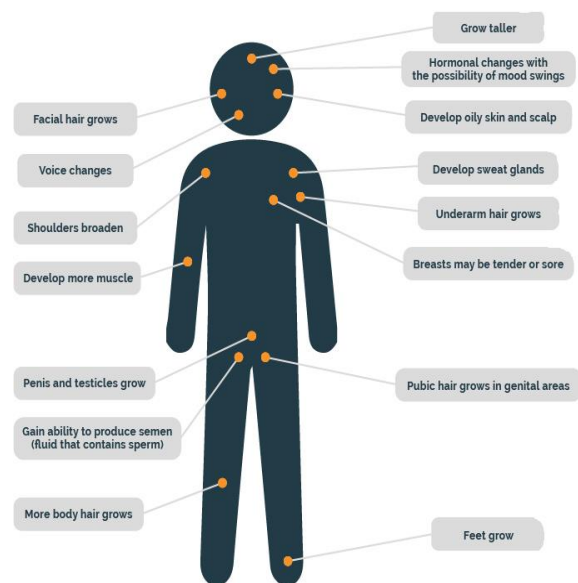
### Physical changes

Due to our improved diet and living conditions, puberty begins early now than in previous generations, in some cases as early as 9 years old, with hormones causing growth spurts and body changes. During puberty, fuelled by testosterone, a boy may grow up to four inches in a year which may well lead to an increased need for sleep and food. Teen's circadian rhythms are different to adults meaning that they are more likely to want to go to bed later and sleep later in the morning. Boys' bodies are growing so fast at this time, and gaining new strength, that they can often seem a little 'clumsy' – it takes their brain a little while to adapt to it's new found shape and size.

By the time boys officially become teenagers their brains have largely caught up with their body growth and now it's the brains turn to develop.

### Brain changes and becoming emotionally mature

During the teenage years the brain begins a reorganisation task to make it work more efficiently and intelligently; in addition to thinking logically, young adolescents can now also think abstractly.



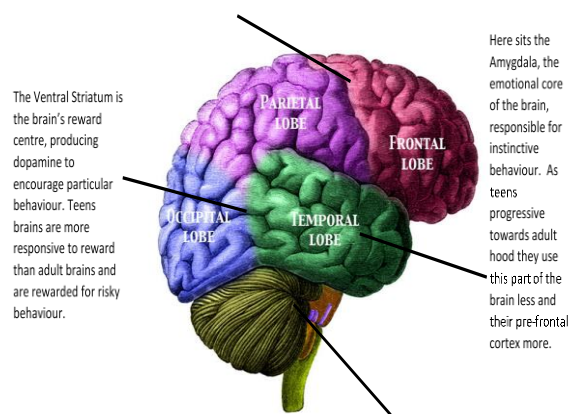
It is a journey that leads to emotional maturity but that journey involves times when teens are emotionally volatile; by the time we're 16 most of the brain that handles emotion and thinking ahead are well developed but they are not yet under control. Young people are hard wired to become independent and to pull away from parents and this can be stressful and frustrating for the young person and their family coming as it does with a greater desire for privacy, demands to make their own decisions and a strong desire to be accepted by their peers.

On the positive side, by the time our teens have reached 18 their bodies and brains are more or less in sync. Vision, smell and hearing are the best they'll ever be, and these can be

very creative times. Teens are better at problem solving than at any other time in their lives and are developing empathy and are likely to make strong emotional bonds outside of the family.

AKA the prefrontal cortex, this part of the brain allows us to think ahead and assess risk. It isn't fully developed until the mid 20s.

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The Hippocampus is the hub of memory and learning; it develops massively throughout adolescence.

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### Supporting adolescents

Although teenagers may well be irritable and keen to withdraw from parents, the presence of parents is vital in this stage of child's development. Where possible, find opportunities to share ideas and activities with your teen as this will strengthen your teens' fragile self-esteem and also allow you to model healthy behaviour and keep communication lines open.

Teenagers should be provided with as many opportunities as possible to make their own decisions and learn from the consequences. Just as it was critical for a toddler to fumble in

putting on their own clothes before mastering the art of dressing oneself, so it is critical for the adolescent to fumble with difficult tasks and choices in order to master the art of making independent, healthy, moral decisions.

Teenagers need boundaries to push against. Encouraging independence whilst monitoring behaviour helps teens to develop a more capable brain. Parents and schools need to have clear expectations and appropriate consequences as they help teens learn to manage difficult situations.

Blame my brain: the amazing teenage brain revealed, Nicola Morgan; Secrets of Growing Up, ITV; The Price of Privilege, Madeline Levine.

Images: <http://www.idahoteenpregnancy.com/sexual-health/>

