



Understanding, managing  
& treating **chronic pain**

## An introduction



Chronic pain is a leading cause of disability in the UK yet it is often not taken seriously and people may be sent away with the assumption that their pain is imaginary. This is not the case. There is no such thing as imaginary pain!

Chronic or persistent pain lasts longer than twelve weeks even with medication or treatment. Pain can occur for a number of reasons. Biological, psychological, and social factors all contribute to pain being experienced. Sometimes the reason for the pain is not clear but that does not mean it doesn't exist.

This booklet aims to explain how the pain mechanism works and why we may experience pain even when the cause is unclear. It also looks at how chronic pain impacts a person's life and what can be done about it.

# What is chronic pain?

## What is pain

A good definition of pain comes from the International Association for the Study of Pain (IASP): “Pain is an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage.”

## The two types of pain

Scientific and clinical practice have split pain into two types: chronic pain and acute pain.

### **Acute pain**

Acute pain usually comes on suddenly and is caused by something specific. It is sharp in quality. Acute pain often subsides after three months. It goes away when there is no longer an underlying cause for the pain. Causes of acute pain include:

- Surgery
- Broken bones
- Dental work
- Burns or cuts
- Labour and childbirth

### **Chronic pain**

Chronic or persistent pain lasts longer than 12 weeks despite medication or treatment. Most people get back to normal after pain following an injury or operation, but sometimes the pain carries on for longer or comes on without any history of an injury or operation. Sometimes it even happens for no apparent reason. There are multiple reasons for the occurrence of pain – biological, psychological, and social factors contribute to the pain syndrome.

Different types of chronic pain include:

- Joint pain, or arthritis
- Back pain
- Neck pain
- Cancer pain near a tumour
- Migraines and other headaches
- Fatigue
- Ongoing discomfort in scar tissue
- Generalised muscle pain (as in fibromyalgia)
- Pain caused by nerve or other nervous system damage, called neurogenic pain

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### **Important note**

If you suffer from chronic pain, please book an appointment with a qualified health professional to rule out any serious structural or pathological issues. They will know what questions to ask and tests to perform to ensure you do not have a serious medical condition. Many people with chronic pain will have had multiple encounters with medical experts. If you have a serious condition, it doesn't mean that none of this applies, it just means you'll need to take additional steps to address it.

## Understanding chronic pain

Have you been told that your pain “is not real?” or that it is “all in your head?”

All Pain is Real. There is no such thing as imaginary pain.

Pain is always real. This is the fundamental understanding of all chronic pain research. We have come a long way since the idea that people were malingering or making it up. Chronic pain is real and can be incredibly difficult, debilitating and demoralising.

All pain is real, and all pain is generated in the brain. In fact, the brain is responsible for generating every sensation we feel, and through the nervous system, it controls all of our bodily functions. The brain interprets electrical signals from our body and decides almost instantaneously how to respond, consciously and unconsciously.

Pain and other uncomfortable sensations are how our brain alerts us when it perceives a threat. The threat can be real or imagined, physical or psychological. When the brain's danger alarm mechanism gets activated, our sympathetic nervous system prepares us for 'fight or flight'. When danger signals disappear, and/or safety signals are perceived, our parasympathetic nervous system activates so we can 'rest and digest'.

For example, when you stub your toe, your peripheral nervous system sends signals to your brain, which then decides how much danger there is. If it determines the signals are worth attention, the pain volume is cranked up until the problem is resolved, if not, the pain is put on mute.

This system works well for acute pain, like an injured toe. But in chronic pain, the parts of the brain that send and receive danger signals become more sensitive over time. Scientists say the more the brain processes pain, the more perceptive it gets until it's always on high alert. These signals can be hard to stop, are often intense, and sometimes seem to come for no apparent reason. This fact isn't always easy to understand, but it is essential to know that this pain is still real.

**Key point:** Pain is very real and can be complex.

“All pain is real. There is no such thing as imaginary pain.”



## Some key facts

- Chronic pain is complex. When it comes to chronic pain, it can be challenging to determine whether findings on scans or X-rays are genuinely connected to the cause of the patient's discomfort. Most of the time, clinicians can get a complete picture of you by hearing your story, listening to your responses to their questions, and examining you.
- You might be surprised to learn that scans can be unhelpful when managing chronic pain. For instance, studies have shown that those who undergo scans and X-rays frequently experience increased anxiety, more pain, and more disability than those who do not.
- Pain is not a reliable indicator of the health of our body's tissues or the extent of an injury. For some of us, this differs from what we might expect. Chronic pain does not always mean that the body is injured.
- Protection is pain's primary goal. The level of discomfort we feel reflects how sensitive our body's natural alarm system is, for instance, about a particular movement or body part. Our past experiences, our levels of stress or worry, and fatigue are just a few of the many factors that impact the pain we feel.
- The evidence suggests that active pain rehabilitation combining physical and psychological treatments, is effective for many people. The focus of this type of approach is to help people improve their quality of life – even if pain sometimes persists.

# What factors predispose people to chronic pain?

Chronic pain is a complex condition that can be caused by various factors. Some people may be more predisposed to chronic pain due to certain risk factors including: genetic factors, age, gender, lifestyle factors, history of trauma or injury, psychological factors, and social factors.

## Genetics

Certain genetic factors have been linked to an increased risk of developing chronic pain conditions such as fibromyalgia and migraine. For example, mutations in certain genes involved in pain perception and processing can make individuals more sensitive to pain.

## Age

The risk of developing chronic pain increases with age, possibly due to age-related changes in the nervous system and other biological factors.

## Gender

Chronic pain conditions are more common in women than men. Hormonal factors, differences in pain processing between sexes, and social and cultural factors may all contribute to this disparity.

## Lifestyle factors

Lack of physical activity, poor diet, and smoking have all been linked to an increased risk of chronic pain.

## A history of trauma or injury

A history of physical or emotional trauma, or a previous injury or surgery, can increase the risk of developing chronic pain. This can occur due to changes in the nervous system or other biological factors.

## Psychological factors, such as stress, anxiety, depression, and trauma

These factors can alter how the brain processes pain signals and increase pain perception. Additionally, chronic pain can cause psychological distress, which can further exacerbate pain symptoms.

## Social factors

Factors such as lack of social support, low socioeconomic status, and work-related stress, can also contribute to the development of chronic pain. For example, social isolation and lack of support can increase stress levels and trigger or exacerbate pain symptoms.

“Chronic pain conditions are more common in women than in men.”

## How does chronic pain develop?

Chronic pain is often the result of a complex interaction between biological, psychological, and social factors. Some common causes of chronic pain include:

**Injury or trauma** Chronic pain can develop due to an injury or trauma, such as a car accident, sports injury, or surgery. In some cases, the pain may persist long after the initial injury has healed due to nerve damage, scarring, or other tissue changes.

**Medical conditions** Chronic pain can also be a symptom of underlying medical conditions such as arthritis, chronic fatigue syndrome, or nerve disorders.

**Central sensitisation** This is a condition in which the nervous system becomes sensitised to pain signals and interprets harmless stimuli as painful. This can lead to an overactive pain response and an amplification of pain signals.

**Psychological factors** Chronic pain can also be influenced by psychological factors such as stress, anxiety, depression, and trauma. These factors can contribute to pain development and persistence by altering how the brain processes pain signals.

**Lifestyle factors** Certain lifestyle factors, such as poor diet, lack of exercise, and sleep disturbances, can also contribute to the development of chronic pain.

It is important to note that chronic pain is not always associated with a specific cause. In some cases, the origin of the pain may be challenging to identify. Chronic pain is a complex and multifactorial condition. Successful treatment often requires a comprehensive approach that addresses the underlying biological, psychological, and social factors contributing to the pain.

In chronic pain, stress, life events, and health experiences can all trigger an overactive nervous system to begin a cycle of chronic symptoms, such as pain, fatigue, migraines, etc.

Sometimes these symptoms may develop with injury or appear out of the blue. As our nervous system is exceptionally plastic and malleable, we get better at producing the symptoms, even if the stressors, biological, psychological, social, or a combination, are less significant. We are then left with a very sensitive 'alarm system' that carries messages to the brain very easily.

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Once the brain has been 'sensitised', it can become increasingly protective, detecting danger even when no danger is present. This often significantly impacts our lives, including our sleep, physical activity, relationships, and mental health.

With chronic pain, the brain can become sensitised, leading to an amplification of pain signals even when there is no obvious cause

### Summary

- Chronic pain is real and can be incredibly difficult, debilitating and demoralising.
- All pain is generated in the brain, which interprets electrical signals from the body and decides how to respond.
- Chronic pain can be caused by injury, medical conditions, central sensitisation, psychological factors, and lifestyle factors.
- Chronic pain is a complex and multifactorial condition. Successful treatment often requires a comprehensive approach that addresses the underlying factors.
- In chronic pain, the brain can become sensitised, leading to an overactive pain response and an amplification of pain signals, even when no actual danger exists.



# What is the impact of chronic pain?

Chronic pain side effects may include:

- Lower quality of life
- Depression
- Anxiety
- Disorders related to substance misuse
- The chronic condition getting worse
- An elevated risk of suicide and/or suicidal thoughts



Paying attention to our pain can make it more powerful

## What maintains chronic pain?

### **A specific focus on body sensations**

The more attention we pay to something, the more we notice it. If we notice that our pain feels worse today than yesterday and then make a note to focus on it, we will likely become more aware of the pain, and it will become more powerful.

### **Fear of the pain**

A negative cycle called 'the fear-pain cycle' often occurs with chronic pain. In chronic pain, fear and pain fuel one another, creating significant issues such as anxiety, increased physical pain, and easier activation of the fight-flight mode and this leaves the nervous system on high alert.

### **Poor mental and physical health**

Often because of the fear-pain cycle, we develop a sense that it is unsafe to exercise and perform activities we once participated in. We may find it difficult to take part in activities such as socialising, playing sports, seeing friends, and being part of the community. However, reducing these activities and the feelings that goes alongside them can negatively impact our mental and physical health.

### **Development and strengthening of neural pathways**

The more the nervous system 'practises' activating a certain symptom, the easier it is for the body and mind to activate it time and time again.

### **People or places that can make us feel unsafe, bad, or let down**

Often different people and places can have a negative impact on our mood, feeling of safety, and how we feel about ourselves. Speaking to a therapist can be a good way of identifying these situations and exploring ways to develop healthier boundaries with others.

# What can we do about chronic pain?

**Reminder: the first thing to do is to ask your GP to rule out structural damage or organ disease processes that can also cause chronic pain.**

## **Chronic pain as a result of ongoing damage or disease**

If chronic pain is related to structural damage or organ disease processes, the National Institute for Health and Care Excellence recommend acceptance and commitment therapy (ACT) or cognitive behavioural therapy (CBT) for people aged 16 years and over with chronic primary pain (National Institute for Health and Care Excellence, 2021).

CBT is a form of talking therapy that helps people identify and develop skills to change negative thoughts and behaviours (Fenn & Byrne, 2013). CBT says that individuals – not outside situations and events – create their own experiences, pain included. And by changing their negative thoughts and behaviours, people can change their awareness of pain and develop better coping skills, even if the pain level stays the same. CBT helps by focusing on the positive aspects of our lives and setting realistic, achievable goals that can improve our quality of life.

ACT aims to help patients accept what is out of their control and commit instead to actions that enrich their lives (Harris, 2013). Its unique goal is to help patients create a rich and meaningful life and develop mindfulness skills alongside the existence of pain and suffering.

Importantly, unlike pharmacological treatment, CBT and ACT have not shown any harmful impacts on patients.

Three possible techniques used in CBT/ACT might be:

**Cognitive restructuring:** This technique identifies and challenges negative thoughts and beliefs about pain. Individuals in pain often imagine the worst possible outcomes related to their pain. Therapy can help identify and challenge these negative thoughts, replacing them with more realistic ones. For example, instead of thinking, “I’ll never be able to do anything fun again because of my pain,” a more realistic thought might be, “I may not be able to do everything I used to, but there are still things that spark enjoyment and happiness.”

**Graded activity:** This technique involves gradually increasing physical activity levels in a safe and controlled manner. Sometimes because of the pain or fear that exercise might make the pain worse, people avoid physical activity. However, inactivity can make pain worse by causing muscles to weaken and make people more susceptible to injury. Graded activity helps to build strength and endurance while gradually increasing the amount of physical activity. This can help to reduce pain and improve overall functioning.

“The best treatment plans use a variety of strategies, lifestyle changes and therapies.”

**Relaxation techniques:** These techniques can involve learning how to relax the body and calm the mind. Chronic pain can cause a great deal of stress and tension in the body, which can exacerbate pain. Relaxation techniques such as deep breathing, progressive muscle relaxation, and mindfulness meditation can help to reduce stress and tension and promote a sense of calm.

“Chronic pain can cause a great deal of stress and tension in the body.”

If you have chronic pain and depression, and/or anxiety, it's important to seek treatment for your mental health condition(s). Having depression or anxiety can make your chronic pain worse. For example, if you have depression, the associated fatigue, sleep changes, and decreased activity may worsen your chronic pain.

The best treatment plans use a variety of strategies, lifestyle changes and therapies. As always, the best treatment is one that works for you.

## **Chronic pain with no underlying pathology**

**Note:** If you are struggling with back pain, a scan or X-ray is not likely to show the cause of your pain unless serious pathological issues are suspected. Often people with no pain have disc ‘abnormalities’, and people with pain do not have ‘abnormalities’. Please see Flippin Pain’s resources below for more information.

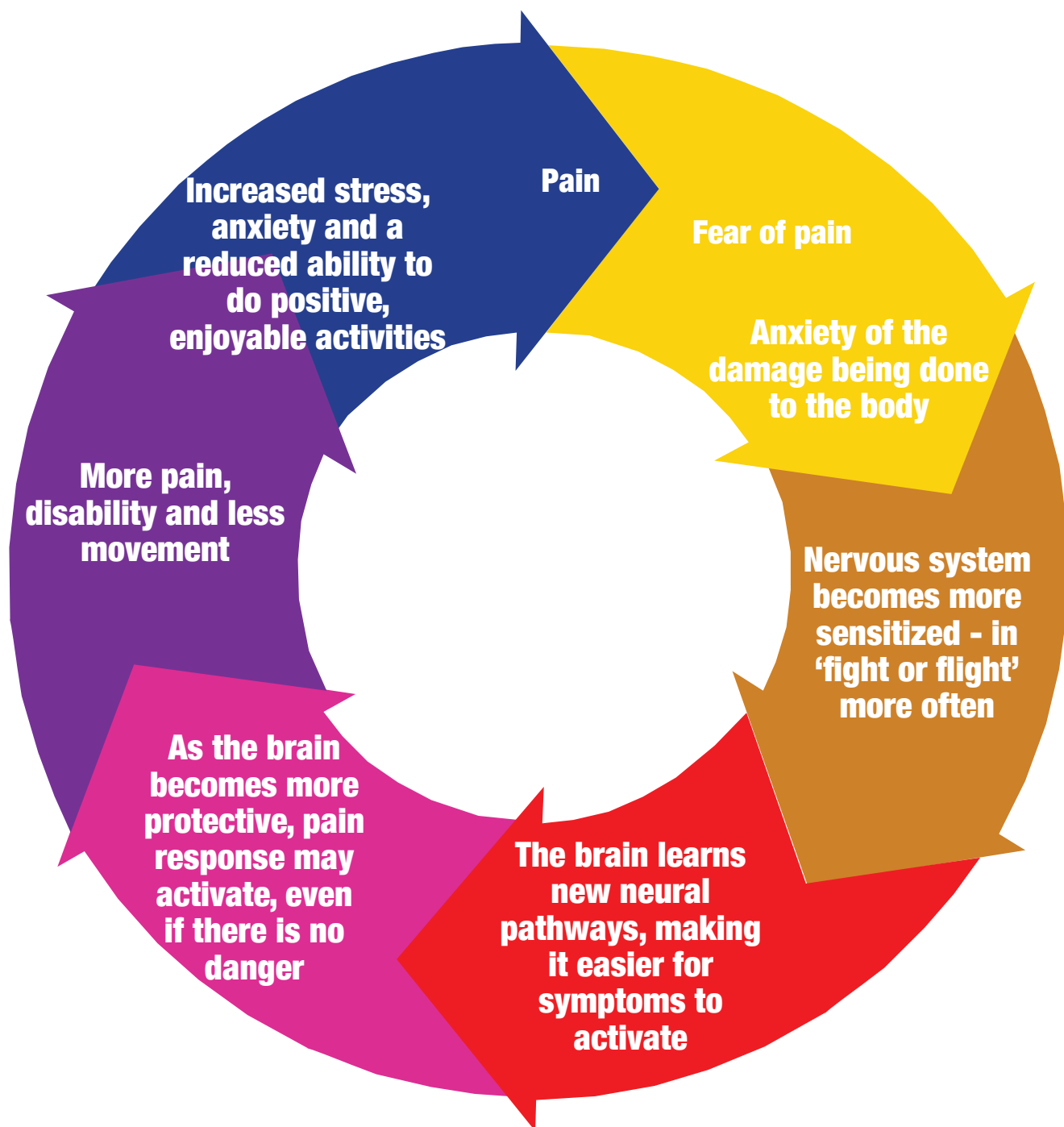
### **How can psychological therapy help?**

We do not need to fight the pain or ‘get over it’, ‘push past the pain’, or think it’s a case of ‘mind over body’. However, we can do a few things that can improve our pain and our relationship with it:

## **Understanding pain better**

We need to understand that if the brain perceives danger, then nerves are activated to produce a physical response, protecting us from further danger. This physical response could come in the form of muscle tension or contraction, elevated heart rate, inflammation, anxiety, pain, and many other symptoms (Buer & Linton, 2002). Common examples of when pain occurs can be when you are tired, about to go into a difficult business meeting, or going into a high-stress environment. (Mosley & Butler, 2017)

## The Chronic Pain Cycle



## Breaking the chronic pain cycle

Developing a better understanding of what pain is can help reduce the fear of pain. This may help reduce your daily anxiety, reduce the physical intensity, reduce the frequency of flare-ups, and enable us to enjoy activities that we once used to enjoy before the cycle started.

### Start to discover stressors in our lives

Psychological therapy can be a great place to start a process of self-discovery. Understanding what makes us feel unsafe is critical to working out what makes us feel safe. Working with a therapist to understand stressors and what they mean to you is essential to help reduce your pain. As part of Emotional Awareness and Expression Therapy (Lumley & Schubiner, 2019), people are encouraged to experience and express adaptive emotions in therapy or using imagery and expressive writing. This can lead to a better understanding of stressors and the impact of psychosocial situations.

### Rewiring of neural pathways

As we start to understand our stressors, we can begin to rewire neural pathways (Ashar et al., 2021). This is a process of experimentation, patience, and consistency. Research-based techniques include pain science education, CBT, Expressive Writing, Graded Motor Imagery, and guided meditation. For example, a therapy session might work on bringing a mental image to mind that helps you visualise pain leaving the body, often through each out-breath, or there are various body scan techniques which encourage the individual to picture their body being filled with warm, liquid sunlight. Other techniques may include gathering and reinforcing personalised evidence for the origins of pain and its reversibility. This may involve understanding when the pain began, what triggers there are to pain and whether the pain is inconsistent or can be brought on by different contexts.

### Engaging in positive, enjoyable behaviours

By understanding our stressors and using different psychological techniques, we can start to spend more time doing things that make us feel inherently safe and bring us joy. This will create new neural pathways and release pain-relieving chemicals. The more we do these activities, the more comfortable and downregulated our nervous system will become.

### Develop a new perspective on chronic pain

Learning more about pain, going through a process of self-discovery, and engaging in new activities can all significantly reduce chronic pain or even help you recover from it.



## Resources

Pain Concern: a charity focused on providing information and support for those in pain and those looking after those in pain. Also actively involved in campaigning for the provision of pain management services.

<https://painconcern.org.uk>

The British Pain Society Multi-disciplinary pain charity focused on promoting education, training, research, and development in all fields of pain.

<https://www.britishpainsociety.org>

Pathway through Pain Self-management program developed to help people improve and manage their chronic pain.

<https://www.pathwaythroughpain.com>

Psychophysiological Disorders Association Non-profit with a mission to end chronic pain by advancing the awareness, diagnosis and treatment of neuroplastic symptoms, such as chronic pain, migraines, and fibromyalgia.

<https://ppdassociation.org>

Flippin' Pain Public health campaign to change the way we think about, talk about and treat persistent pain: <https://www.flippinpain.co.uk/resources> &

<https://www.flippinpain.co.uk/understanding-pain>

Act Mindfully Information about ACT and how it can improve people's lives through different psychological techniques.

<https://www.actmindfully.com.au>

NHS Website that talks about Cognitive Behavioural Therapy (CBT) and how it works.

<https://www.nhs.uk/mental-health/talking-therapies-medicine-treatments/talking-therapies-and-counselling/cognitive-behavioural-therapy-cbt/how-it-works>

John Hopkins Medicine website talks about chronic pain, what it is and what options there are for treatment and management.

<https://www.hopkinsmedicine.org/health/conditions-and-diseases/chronic-pain>

Pain Revolution is a charity based in Australia which focuses on training healthcare professionals to have advanced knowledge of pain science. The website contains several useful factsheets that explain chronic/persistent pain in detail.

<https://www.painrevolution.org/factsheets>

Curable Private is an organisation that uses the latest in pain science to understand and explain the role that the brain and central nervous system play in the development, maintenance and recovery from chronic pain.

<https://www.curablehealth.com>

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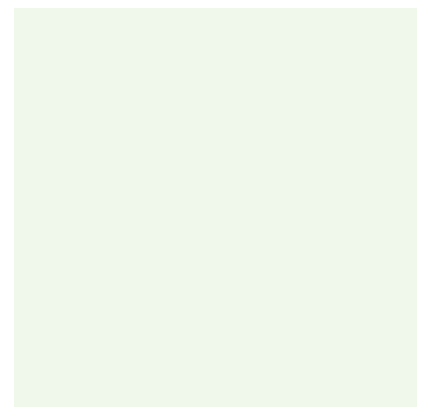
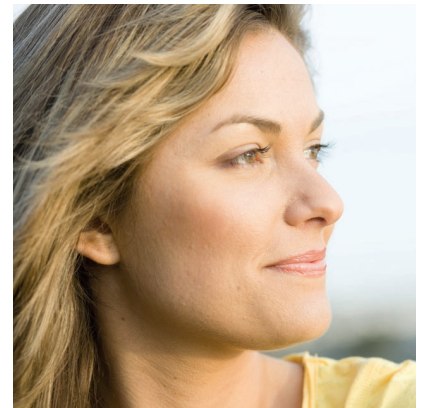
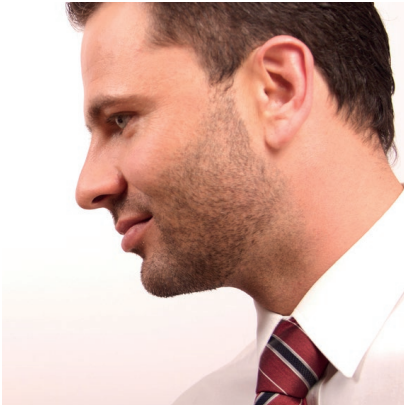


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