



This learning builds on the content of “The Dilemma of OTC Codeine Sales” panel discussion video.

You should ensure that you have reviewed and reflected on the panel discussion before completing this additional learning. A video of the discussion is available at <https://youtu.be/5bpJhLKPISE>

## Codeine

Codeine is a naturally occurring opiate which is usually produced commercially by methylation of morphine, which is more abundant in natural sources such as the opium poppy (*Papaver somniferum*).

## Pharmacology

Codeine is a prodrug which exerts its pharmacological effects following metabolism to morphine by the enzyme CYP2D6 in the liver.<sup>(1)</sup> The active metabolite then works by mimicking the actions of endogenous opioids, binding to the opioid receptors at numerous sites within the central nervous system (CNS). Its stimulant action at  $\mu$ -subtype opioid receptors reduces the release of nociceptive neurotransmitters (those involved in the perception of pain from physical or potential harm) such as dopamine, acetylcholine, noradrenaline and gamma-aminobutyric acid (GABA). This results in reduced pain perception and reaction to pain in the individual, and therefore increased pain tolerance.<sup>(2)</sup>

Stimulation of  $\mu$ -subtype receptors in the gut results in reduced intestinal motility. Action at the cough centre of the medulla is responsible for antitussive activity.

As the clinical effects of codeine are dependent upon metabolism to its active metabolites, genetics can play a significant role in patient outcomes when taking codeine containing medicines. Those with two inactive copies of the CYP2D6 gene are unable to metabolise codeine to morphine adequately (**poor metabolisers**) and therefore will not experience the full analgesic effect.<sup>(3)</sup> However, they may still experience codeine toxicity.<sup>(1)</sup> Conversely, those that carry additional functioning copies of the CYP2D6 gene are able to metabolise codeine to the active morphine metabolite more rapidly and more completely. This means that these “**ultrarapid metabolisers**” may experience symptoms of morphine overdose, such as CNS and respiratory depression.<sup>(1, 3)</sup>

The recommended dosages of codeine in over the counter medicines are lower than those which may be prescribed. Nonetheless, the potential impact of genotype should be considered when supporting customers with OTC medicines; codeine is contra-indicated in customers known to be ultra-rapid metabolisers.<sup>(4, 5)</sup>



## Codeine as an OTC medicine

Codeine is indicated for its **analgesic** effect in combination with other analgesics such as paracetamol, ibuprofen and aspirin in over-the counter medicines to treat **mild to moderate acute pain**. Although there are no specific guidelines for the management of acute pain with OTC medicines, codeine containing medicines may not be an appropriate first choice and it is recommended that codeine-containing products are only used where use of simple analgesics alone has been ineffective.<sup>(6,7)</sup>

Where these are used, medicines containing codeine can be effective in managing short-term (acute) pain, but there is **limited evidence of their effectiveness** when used for prolonged periods in non-cancer pain<sup>(8)</sup>.

The following article from the Pharmaceutical Journal's Pharmacy Learning Centre may be helpful in refreshing your knowledge of the current evidence and guidance for acute pain management in community pharmacy settings:

- [Clinical Guidelines and Evidence Base for Acute Pain Management](#)<sup>(7)</sup>

Codeine can also be used as an OTC **antitussive** for non-productive coughs in adults, and may be used as a prescription only medicine to reduce intestinal motility in the treatment of acute diarrhoea.

## Concerns with codeine use

Although codeine medicines can be used to manage mild to moderate acute pain, prolonged or repeated use can result in tolerance, and physical and psychological addiction.<sup>(4,9,10)</sup> Concerns over OTC codeine misuse and the limited clinical efficacy at OTC doses have led to several countries banning the sale of codeine containing medicines, and some experts have called for similar measures in the UK.<sup>(11,12)</sup> However stricter controls over the sale, promotion and licensing of OTC codeine containing medicines in the UK have been implemented to begin to address these concerns.

## So can codeine containing medicines be sold safely over-the-counter?

Most customers use OTC medicines containing codeine appropriately and many people find these to be an invaluable treatment option for them to manage their acute pain.

However, pharmacy teams have a significant role to play in supporting customers wishing to purchase and use these medicines through **education, information** and '**nudging**', and are ideally placed to undertake early interventions using the CARE framework of The Boots Healthcare Way, with supporting tools such as the **Codeine Patient Safety Card**.



## Nudging and Nudge Theory

Nudge theory is mainly credited to American academics Richard H Thaler and Cass R Sunstein. It aims to understand the mental shortcuts people create which influence their choices and behaviours, and uses prompts and changes in approaches to support people to make appropriate choices. By addressing potential gaps in understanding or habits which can act as boundaries, people may be 'nudged' towards making better choices through enablement or education.

For codeine containing medicines, this began at a regulatory level with restrictions in pack sizes, and with the implementation of clear warnings about the risks of addiction; all packs and leaflets must clearly display the wording "Can cause addiction. For three days use only"<sup>(13)</sup>

More recently, the piloting of the Codeine Patient Safety Card in several Boots pharmacies has been shown to support the provision of key messages and the initiation of appropriate conversations and has been well received by both pharmacy teams and customers; this card has now been rolled out to all Boots stores. You can read the full evaluation of this approach in the academic paper below:

- [Over-The-Counter Codeine: Can Community Pharmacy Staff Nudge Customers into Its Safe and Appropriate Use?](#)

## Management of Acute Pain in the Community Pharmacy Setting

For many customers, codeine containing medicines may be an appropriate choice for their acute pain needs. However, before recommending or supplying codeine containing medicines, it is important to discuss the risks of tolerance, dependence and addiction with the customer. A recent Medicines and Healthcare Products Regulatory Agency Drug Safety Update provided updated advice for healthcare professionals relating to this<sup>(14)</sup>:

- <https://www.gov.uk/drug-safety-update/opioids-risk-of-dependence-and-addiction>

The Codeine Patient Safety card supports these conversations. In some instances, the 'nudging' provided by the card, as well as discussions as part of the Boots Healthcare Way may prompt some customers to wish to discuss their pain further, and possibly enquire about alternative options to manage their pain.

Speaking to the customer and taking a careful, holistic history can help to identify key issues, the impact that the pain is having on their day-to-day activities, and importantly any 'red flags' which may suggest that referral to another healthcare professional is appropriate.

Drawing on your consultation skills will support a person-centred approach and help you to identify the customer's needs.

# The Dilemma of OTC Codeine Sales: Further Reading

**LICEF** and **TED** can be used to support this approach. These mnemonics are a useful tool to prompt the use of person-centred, open questioning which allow the customer to share their thoughts and ideas.

Using active listening and appropriate questioning can help to identify the nature of the customer's pain and the effect that this is having on their daily life. This can be supplemented using further tools such as **SOCRATES** to understand more about the person's pain.

## LICEF & TED

<b>L</b> ifestyle:	What effects is this having on your daily living?
<b>I</b> deas:	What thoughts do you have about this pain?
<b>C</b> oncerns:	What's worrying you about this?
<b>E</b> xpectations:	What do you think would be the best approach? What are hoping for?
<b>F</b> eelings:	How is this pain making you feel?
<b>T</b> ell:	"Tell me more about the pain in your back"
<b>E</b> xplain:	"Explain what you mean by "constant ache""
<b>D</b> escribe:	"Describe the pain to me"

## SOCRATES

<b>S</b> ite:	Where is the pain?
<b>O</b> nset:	Was this gradual or sudden?
<b>C</b> haracter:	Describe the nature of the pain (e.g. dull, stabbing, cramping, crushing)
<b>R</b> adiation:	Has the pain spread or is it felt anywhere else?
<b>A</b> ssociated symptoms:	Is the customer experiencing any other symptoms (e.g. nausea, sweating)
<b>T</b> iming:	When did the pain start? How long does it last?
<b>E</b> xacerbating/palliative:	Does anything make the pain worse or better?
<b>S</b> everity:	For example, "On a scale of 0-10, where 0 is no pain at all and 10 is the worst ever pain, where would you score this?"

## Red flags

When assessing a customer with pain, it is critical that significant symptoms which suggest a more sinister aetiology and/or which may warrant further referral are excluded.

The following list provides examples of 'red flags' which require urgent referral.<sup>(15)</sup>

- Central chest pain with sweating (possible heart attack)
- Severe abdominal pain
- Sudden onset of pain arising from a testicle (torsion)
- Back pain with altered sensations in the genital area or altered bowel or bladder function (cauda equina syndrome)
- Back pain associated with sudden onset of headache, neck or upper back stiffness (subarachnoid haemorrhage)
- Earache with tender swelling and pain behind the ear (mastoiditis)
- Sudden onset of a severe headache
- Headache with new neurological symptoms such as numbness, double vision, or loss of coordination

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- Headache accompanied by symptoms of meningitis (becoming rapidly ill, fever, rigors, vomiting, drowsiness, photophobia, abdominal pain, non-blanching rash)
- Sudden headache with neck pain (subarachnoid haemorrhage)
- Fever and hot, red swollen joint (septic arthritis)

Guidance such as those found on the Clinical Knowledge Summaries website at <https://cks.nice.org.uk/> can support appropriate decision making and identification of red flags.

Once any red flags have been excluded, an evidence-based approach can be used to support a person-centred discussion of treatment options. Revisiting the following article may help to understand pharmacological treatment options:

- [Clinical Guidelines and Evidence Base for Acute Pain Management](#)<sup>(7)</sup>

However, it is important to treat the customer holistically, and recognise that pharmacological treatments may represent only one option or form part of an overall management plan for their pain management.

The **Pain Toolkit** Website (<https://www.paintoolkit.org/>) lists twelve tools designed to help with the management of persistent pain that empower the person to take ownership of their pain management, and includes steps such as acceptance, pacing and prioritising.<sup>(16)</sup> Similarly, the **Live Well With Pain** website (<https://livewellwithpain.co.uk/>) provides ten steps to support the management of chronic pain.<sup>(17)</sup>

Both websites have resources for the public and for healthcare professionals, and whilst they focus on longer term or chronic pain, these may be useful signposting resources for customers seeking repeat purchases of pain relieving medicines.

Customers may also wish to explore other options to support them to manage their pain, such as

- Cognitive Behavioural Therapy (CBT):  
<https://www.nhs.uk/conditions/cognitive-behavioural-therapy-cbt/>
- Transcutaneous electrical nerve stimulation (TENS):  
<https://www.nhs.uk/conditions/transcutaneous-electrical-nerve-stimulation-tens/>
- Alternative treatments such as acupuncture (<https://www.nhs.uk/conditions/acupuncture/>) or chiropractic therapy (<https://www.nhs.uk/conditions/chiropractic/>)
- Physiotherapy. Boots offers online appointments for the latter through PhysioFast Online:  
<https://www.boots.com/health-pharmacy-advice/video-services/physiotherapy>



## Addiction and Dependence to OTC Codeine

Despite continued support, nudging and advice, some people may be inadvertently dependent upon or addicted to medicines containing codeine. These two terms are often used interchangeably but can have subtly different meanings. Dependence is considered to occur when repeated use of a drug leads to reduced effect (tolerance) and withdrawal symptoms when use of the drug is ceased abruptly. Addiction may involve dependence, but also involves drug seeking behaviour which may not be controlled.<sup>(18)</sup>

However, this is a complex area. People misusing OTC codeine may consider themselves addicted but remain socially and economically functional and feel different to those using illicit substances. Their pathway to a substance misuse disorder may have begun with legitimate medical use, rather than experimentation, and escalated as a result of dependence or a continued need for the effects of opioids.<sup>(19)</sup>

Because of the complexity, tackling such issues in the pharmacy requires sensitivity and care. The use of tools such as the Codeine Patient Safety Card may 'nudge' people to discuss concerns they may have, and in some instances this may concern a third party (for example if they are making purchases for someone else).

You should not try to manage a person's addiction to OTC codeine yourself in the pharmacy setting; expert assessment and input is fundamental to ensure the right outcomes for the customer. Equally however, if you have concerns regarding a customer's use of OTC codeine you should discuss this with them confidentially and with sensitivity.

Consider and reflect on how you and your team might support customers in these situations:

- How will pharmacy team members highlight concerns they may have to the pharmacist?
- If a customer expresses concerns about codeine use to a member of the pharmacy team, how will the colleague refer the customer to the pharmacist with empathy and care, and avoid the customer having to repeat themselves ('warm transfer')?
- How will you start the conversation with a customer about their codeine use (think about the words and phrases you might use)?
- Where there are concerns over codeine misuse, consider whether refusing a sale of a codeine-containing medicine is the appropriate approach. This is challenging, and you must use your professional judgement to decide the most appropriate, person-centred action in these circumstances.

Taking a **non-judgemental, supportive and person-centred** approach to these discussions is essential.

Where concerns are identified, and a customer requires further support, local Drug and Alcohol Teams (DAAT) may be able to provide help. However, resources can be stretched and the stigma of approaching these can be disconcerting for many people. Some local DAAT teams may have limited support available for those addicted to OTC or prescription drugs; contacting your team to understand referral processes and the resources available may be a beneficial way to support customers who require help with OTC codeine misuse.

Alternatively, signposting them to their GP, with reassurance of confidentiality may be an appropriate option.

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Where it is identified that a customer is recognised as being dependent on a codeine containing medicine, (or is experiencing side effects related to dependence) the Commission on Human Medicines (CHM) encourages reporting this to the MHRA through the [Yellow Card scheme](#) with the term 'dependence' to allow appropriate monitoring<sup>(14)</sup>. Again, this should be handled sensitively and carefully.

## Useful websites

- Talk to Frank  
<https://www.talktofrank.com/>
- We Are With You  
<https://www.wearewithyou.org.uk/>
- Turning Point  
<https://www.turning-point.co.uk/services/drug-and-alcohol-support.html>
- Change Grow Live  
<https://www.changegrowlive.org/>
- UK Addiction Treatment Centres  
<https://www.ukat.co.uk/opiates/codeine/>

## Summary

Many people find codeine containing medicines to be an appropriate short-term option to manage their acute pain, and use these safely and correctly. There is limited evidence of their effectiveness for longer-term pain management however and use in this manner increases the risk of developing tolerance, dependence and addiction.

Early and appropriate interventions in the pharmacy may be crucial in 'nudging' customers into improved health behaviour, and subsequently beneficial health outcomes relating to codeine containing medicines. This could include additional support to help them to take control of their pain management and explore alternative treatments. However, a small minority of people may require additional help to manage their misuse (intentional or otherwise) of codeine containing medicines and pharmacists are well-placed to discuss this sensitively and confidentially, and to signpost to appropriate sources of further support.





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