education

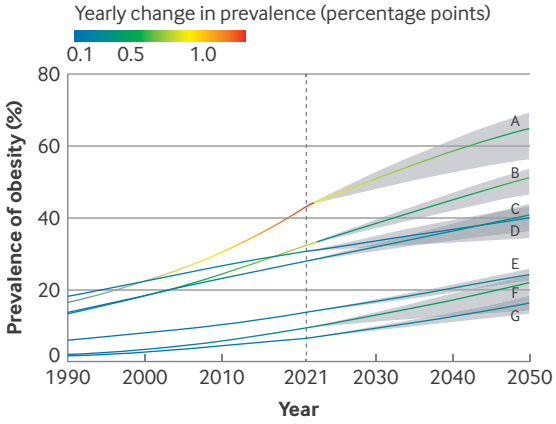
RESEARCH REVIEWS Fortnightly round up from the leading medical journals

Assessing antidepressant effects of GLP-1 receptor agonists

Glucagon-like peptide-1 (GLP-1) receptor agonists have been suggested as having antidepressant effects. If they do, you might expect that people prescribed a GLP-1 for diabetes would be less likely to subsequently receive a diagnosis of depression compared with those prescribed other, newer diabetes drugs, such as dipeptidyl peptidase-4 (DPP-4) inhibitors or sodium-glucose cotransporter-2 (SGLT2) inhibitors.

A target trial emulation study in *Annals of Internal Medicine* examined US Medicare records to see if this is the case. The study found that those prescribed GLP-1 receptor agonists had a "modestly lower risk for depression" compared with use of DPP-4 inhibitors but not SGLT2 inhibitors, which seems inconclusive.

Ann Intern Med doi:10.7326/ANNALS-24-01347



A = North Africa and Middle East
B = Latin America and Caribbean
C = High income
D = Central Europe, eastern Europe, and central Asia
E = Sub-Saharan Africa
F = Southeast Asia, east Africa, and Oceania
G = South Asia

Age standardised prevalence of obesity in men and women (≥25 years old) by region 1990-2050

Weighting times update

In 2021 there were 1 billion men and 1.11 billion women with overweight or obesity, according to the global burden of disease study. Between 1990 and 2021, rates increased in all regions—and in all nations—and are likely to continue to rise (see figure). The study used body mass index (BMI) cut-offs of 25 and 30 for overweight and obesity respectively, rather than region-specific cut-offs, didn't consider the recently proposed definition of clinical obesity, and didn't incorporate in its modelling the potential impact (if any) of glucagon-like peptide-1 (GLP-1) receptor agonists.

Lancet doi:10.1016/S0140-6736(25)00355-1

Bacterial vaginosis gets couples therapy

Is it time to treat male partners of women with bacterial vaginosis?

A trial in the *New England Journal of Medicine* recruited women with confirmed bacterial vaginosis infection who also had a regular male partner, and randomised them to either receive treatment for the woman and partner or treatment of the woman only. At 12 weeks, 35% of the 69 women in the partner treatment group and 63% of the 68 in the control group had recurrence, causing the trial to be stopped early (absolute reduction in recurrences of −2.6 recurrences per person-year (95% confidence interval −4.0 to −1.2)).

Important limitations of the study include that it was unblinded, and partner treatment, which consisted of oral and topical

CLINICAL PICTURE

Crusting plaques on the face secondary to burn injury

This man in his early 40s, who had no medical history, was referred to the burn clinic 20 days after being burned in a gasoline fire. Twelve days after the injury, he started to develop purulent itchy nodules and large crusting verrucous plaques in the region of the burn.

Laboratory tests indicated a raised white cell count, and negative human immunodeficiency virus, syphilis, and fungal serology. Histopathological examination showed pseudoepitheliomatous hyperplasia with abscesses. Culture of the skin biopsy specimens grew *Staphylococcus epidermidis*. Fungal and mycobacterial cultures were negative.

A diagnosis of blastomycosis-like pyoderma (BLP) was made on the basis of the diagnostic criteria proposed by Su and colleagues. BLP is a rare chronic pyoderma that presents as vegetating skin lesions. It is thought to be an exaggerated inflammatory response to bacterial infection and usually occurs in patients who are locally or systemically immunocompromised.

antibiotics, did not include a topical placebo in the control group.

N Engl J Med doi:10.1056/NEJMoa2405404

Multivitamin myocardial methods

TACT2 recently refuted the findings from the original 2013 TACT study, which had unexpectedly found that EDTA chelation and oral multivitamins and multiminerals (OMVM) after myocardial infarction (MI) improved cardiovascular outcomes.

The findings from the OMVM versus placebo arm of TACT2 have now been published, with unsurprising findings. Despite containing thousands of times the recommended dietary allowance of compounds such as pantothenic acid and thiamin, the 28 vitamin and mineral cocktail didn't reduce major cardiovascular events in people with diabetes and a previous MI compared with placebo.

JAMA Intern Med doi:10.1001/jamainternmed.2024.8408

I can't believe it's not healthy to eat butter

The findings from a new cohort study exploring the association between butter consumption and mortality were enough to put me off my morning toast, not to mention my lunchtime sandwich, and dinner of butter chicken followed by bread and butter pudding.

It found a 15% higher risk of mortality over more than 30 years with high butter intake compared with low butter consumption. The researchers modelled the effect of substituting butter with plant based oils and estimated a 17% reduction in mortality from substituting 10 g per day of butter. Hopefully, my preference for a certain leading brand of butter mixed with rapeseed oil will help to spread my risk, as well as the butter.

JAMA Intern Med doi:10.1001/jamainternmed.2024.0205

Tom Nolan, clinical editor, *The BMJ*, London; sessional GP, Surrey

Cite this as: *BMJ* 2025;388:r482

This patient was treated with a two week course of intravenous antibiotics based on drug sensitivities, along with a tapering regimen of topical betamethasone and fusidic acid, with complete resolution of the lesions.

Mengdong Liu; Jun Li (xjburns@fmmu.edu.cn), Xijing Hospital, Air Force Medical University, Xi'an, China

Patient consent obtained.

Cite this as: *BMJ* 2025;388:e082314

MINERVA From the wider world of research

Home blood pressure measurements

An online survey of 350 Australian adults who monitored their blood pressure at home finds, perhaps not very surprisingly, that they don't do it very well. Most took the measurement in the seated position with the cuff fitted to a bare arm, but only a minority took morning and evening readings or measured an average over several days. How much this matters is a separate question. Minerva wondered whether clinical outcomes would have been improved if the measurements had been made more meticulously (*Hypertension* doi:10.1161/HYPERTENSIONAHA.124.23678).

Managing acute pain in children

What is the best pharmacological intervention for children with acute painful conditions? A systematic review and network meta-analysis gave a clear answer. First line treatment should be with non-steroidal anti-inflammatory drugs (NSAIDs). Ketamine, opioids, and NSAIDs were all better than placebo in reducing pain, but NSAIDs provided the greatest benefits and least harm (*JAMA Pediatr* doi:10.1001/jamapediatrics.2024.5920).

Assessing people with vertigo

Symptoms of dizziness and vertigo are common reasons for visits to emergency departments but only a small percentage of patients turn out to have a serious underlying cause. A new risk score, incorporating age, sex, hypertension, diabetes, motor and sensory deficits, and cerebellar signs may help. Although independent validation is needed, the score performed well in distinguishing stroke, transient ischaemic attack, vertebral artery dissection, and brain tumour from more benign causes of vertigo (*Ann Emerg Med* doi:10.1016/j.annemergmed.2024.06.003).

Long-term outcomes of bariatric surgery

Complete 10 year follow-up data were available only for 65% of the 300 adults randomised either to laparoscopic sleeve gastrectomy or Roux-en-Y gastric bypass for the treatment of obesity. Even so, it's fairly clear that Roux-en-Y gastric bypass is the better option for sustained weight reduction and for causing fewer adverse effects. Gastroesophageal reflux was less common after gastric bypass than after sleeve gastrectomy (*JAMA Surg* doi:10.1001/jamasurg.2024.7052).

Asymptomatic aortic stenosis

Guidelines recommend clinical surveillance rather than early surgery for patients with asymptomatic severe aortic stenosis and a normal left ventricular ejection fraction. A meta-analysis of four randomised controlled trials, however, reports that early valve replacement was associated with a halving of admissions to hospital for cardiovascular conditions and stroke over four years of follow-up. Mortality was also lower in those who received early surgery but the numbers were too small to be sure that this wasn't a chance result (*J Am Coll Cardiol* doi:10.1016/j.jacc.2024.11.006).

Cite this as: *BMJ* 2025;388:r485

GUIDELINES

Identification, assessment, and management of gambling-related harms: summary of NICE guideline

Jennifer Francis,[1] Anja Fricke,[1] Ifigeneia Mavranezouli,[2] Alice Navein,[1] Liz Ritchie,[3] Matthew Gaskell[4]

Full author details on bmj.com

Correspondence to: M Gaskell matthew.gaskell@nhs.net

Further information about the guidance, a list of members of the guideline development group, and the supporting evidence statements are in the full version on bmj.com

CPD READING

0.5 HOURS

About 15% of adults living in Great Britain are estimated to participate in "problem gambling" or in gambling with an elevated risk of harm, as reported by the 2023 Gambling Survey for Great Britain.[1] Adverse impacts of gambling, known as gambling-related harms, include loss of employment, debt, crime, breakdown of relationships, domestic violence, and suicide. They affect people who gamble, their families and others close to them, and society.[2]

Liberalisation of UK gambling laws in 2005 (when gambling was changed from a permitted activity to a stimulated market), the increased availability and ease of access to addictive gambling products, and ubiquitous advertising and marketing are contributing to an increase in gambling, particularly in relation to the most addictive products, such as online casino products, in-play micro betting on sports, and land based gambling machines.[3] From 2021 to 2022, costs to the NHS, wider public sector, and society were estimated to be between £1.05bn and £1.77bn.[4]

This article summarises new recommendations from the recently published National Institute for Health and Care Excellence (NICE) guideline on identifying, assessing, and managing gambling-related harms in the UK.[5] These recommendations are intended to support healthcare professionals and social care practitioners across non-specialist settings, including primary care and emergency department settings.

WHAT YOU NEED TO KNOW

- Consider asking questions such as "Do you gamble?" or "Are you worried about your own or another person's gambling?" when asking about smoking, alcohol consumption, or use of other substances. It may also be useful to ask people who disclose gambling about the frequency and duration of episodes
- Refer people experiencing gambling-related harms for support or treatment, or advise them that they can self-refer
- Current evidence suggests that group cognitive behavioural therapy may be the most clinically and cost effective psychological treatment for reducing gambling severity

Recommendations

NICE recommendations are based on systematic reviews of best available evidence and explicit consideration of cost effectiveness. When minimal evidence is available, recommendations are based on the guideline committee's experience and opinion of what constitutes good practice. To ensure representation of the setting in which the recommendations are to be applied, the guideline committee included two general practitioners. Evidence levels for the recommendations are in the full version of this article on bmj.com.

Gambling products can be harmful, and the addictive potential of different forms of gambling vary. In health, social care or criminal justice settings, such as GP registration or social services contacts, practitioners should consider asking everyone about gambling. This is in the context of holistic assessments and in the same way people are asked about smoking and alcohol consumption, reflecting a population-based approach to gambling-related harm. The guideline also highlights situations in which people may have been more exposed to harmful gambling products or more likely to have experienced gambling-related harms.

Currently only a small proportion of people experiencing gambling-related harms receive support and treatment. Professionals and the public may not know that certain symptoms are linked to gambling. People may not know that support and treatment are available, or may be reluctant to seek help because of stigmatisation, shame, and fear of disclosure. The guideline committee did not find any published evidence on short screening tools (five questions or fewer) that could be used to identify gambling-related harms proactively in a wide range of non-specialist settings, including primary care, social care, or in the criminal justice system:

- Consider asking people about gambling (even if they have no obvious risk factors for gambling-related harm) when asking them about smoking, alcohol consumption, or use of other substances (for example, as part of a holistic assessment or health check, when registering for a service such as with a GP or in contacts with social services).
- Use direct questions to ask people about gambling, such as: "Do you gamble?" or "Are you worried about your own or another person's gambling?" Be aware that some people may find it difficult to talk about gambling.

Risk factors and indicators

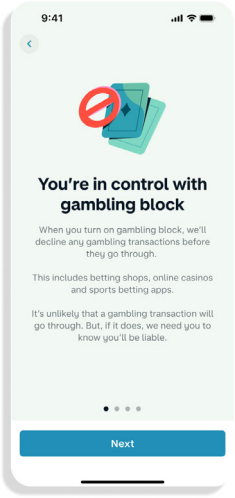
Evidence from 33 cross sectional studies was used to agree a list of risk factors or 'red flags' that may indicate an increased likelihood of exposure to gambling-related harms. As well as the risk factors identified in the evidence review, the committee used their expertise to include certain demographics, neurological conditions, or occupations known to be associated with gambling-related harms. The committee agreed that the risk factors were not diagnostic but could be used as indicators to support identification and investigation.

- Ask people about gambling in the following situations because they may be at increased risk of gambling-related harm:
  - When they present in any setting with a mental health problem or concern, in particular thoughts about self-harm or suicide, depression, anxiety, psychosis and bipolar disorder, post-traumatic stress disorder (PTSD), personality disorder, or attention deficit/hyperactivity disorder (ADHD)
  - When they are taking medicines that may affect impulse control, for example dopamine agonists for Parkinson's disease, or aripiprazole for psychosis. See the NICE guideline on Parkinson's disease[6] for advice on managing and monitoring impulse control disorders as an adverse effect of dopaminergic therapy
  - At each key contact with the criminal justice system (for example, with the police, liaison and diversion services, probation services, courts, and prisons)
  - When they present in any setting with problems relating to alcohol or substance dependence, especially use of cocaine
  - When they are at risk of or experiencing homelessness
  - When they share that they have financial concerns
  - When there are concerns about safeguarding issues or violence, including domestic abuse
  - When they share that they have a family history of gambling that harms or alcohol or substance dependence.
- Consider asking people about gambling if they may be at increased risk of harm
  - Because they have a neurological condition or acquired brain injury that leads to disinhibition or increased impulsivity
  - Because they are a young person who has recently left home for the first time
  - Because of their current or past occupation, for example armed forces personnel, veterans, people working in the gambling or financial industry, and sports professionals.

Initial support

The guideline outlines a range of support that can be offered to people experiencing gambling-related harms.

- Advise people experiencing gambling-related harms that support and treatment are available and recovery is possible.



Blocking software to prevent online gambling

- If a person is experiencing gambling-related harms, offer initial help and support. Depending on the setting, the severity of the harms, and the level of concern, this could include:
  - Providing information on gambling-related harms
  - Encouraging and supporting them to seek help, for example from their healthcare provider or social worker
  - Signposting them to resources and services for further help and advice (for example, the NHS website on help for problems with gambling, gambling support groups, local authority resources, and the national gambling helpline), some of which can be accessed anonymously
  - Referring or signposting them to gambling support and gambling treatment services.
- Consider brief motivational interviewing to encourage people to seek further help and support if they are reluctant to access services.
- Recognise that gambling and gambling-related harms can be a dominant risk factor for suicidal ideation and suicide attempts, even in the absence of other risk factors.
- If a person experiencing gambling-related harms presents considerable or immediate risk to themselves or others, refer them urgently to specialist mental health services or a crisis team, via the emergency services if necessary. See the NICE guideline on self-harm: assessment, management and preventing recurrence.[7]
- Ask people experiencing gambling-related harms directly about suicidal ideation and intent. If there is a risk of self-harm or suicide:
  - Tell them about the known link between gambling-related harms and suicide, and that the risk may be highest immediately after a gambling episode
  - Put in place a safety plan to help them manage the acute risk. See the NICE guideline on self-harm: assessment, management and preventing recurrence[7]
  - Assess whether they have social support (for example, from their family or friends) to help protect them, and are aware of other sources of help (for example, voluntary sector organisations or social care services)
  - Consider mobilising social support to help protect the person (for example, by contacting their family or friends, balancing the possible benefits and risks of involving family members or carers with the rights of the person)
  - Advise them to seek further help if the situation deteriorates.
- Discuss with people the possibility of practical self-exclusion techniques that could be used to prevent gambling, including:
  - Blocking software or tools to prevent online gambling
  - Blocking marketing messages
  - Self-exclusion systems
  - Systems that block gambling payments through the person's bank account

- Methods to limit access to money, for example agreeing that a family member will take control of finances.

- Consider providing advice on how and where to seek help and support with:
  - Finances, including debt management
  - Social issues such as housing
  - Employment or employer issues
  - Legal issues
  - Domestic violence or other harms to family relationships, including economic abuse and coercive behaviour.

Information and support

A systematic qualitative review was undertaken to identify the information and support needs of people experiencing gambling-related harms, including affected others. This identified several themes relating to information and how it should be provided by gambling treatment and gambling support services. Although the confidence rating of this evidence was assessed as being low, it aligned with the committee's experiences.

- Provide unbiased information to people who are experiencing gambling-related harms (including affected others) to support their treatment and recovery. This could include information on:
  - Why people gamble and what induces them to continue gambling or return to gambling, despite the harm. Include information on the addictive nature of gambling, effects on the reward system in the brain and how the gambling industry and advertising may incentivise, encourage, and promote gambling behaviour
  - The different types of gambling activities, how different products are targeted to different groups of people (for example, in-game sports betting is promoted mainly to young men and some online games are promoted mainly to women) and how the addictive characteristics and harm of different gambling products and environments may vary
  - That it is common to feel shame or fear and to experience stigma when disclosing gambling harms
  - The harms that can be caused by gambling, for example distress; impact on self-esteem, self-control, decision making and mental health; the potential for increased risk of suicide, debt, and possible involvement in crime
  - How to recognise the potential harms associated with gambling, including the link with mental health conditions, and alcohol or substance dependence
  - What services are available for gambling-related harms (including crisis services for people at risk of suicide; voluntary sector organisations or social care services; and national, regional, or local treatment services) and how to access them
  - How to access other sources of support for gambling-related harms (for example, informal support from family and friends, peer support groups, and online forums)
  - How to access practical support (for example, debt services, financial help and advice on how to avoid gambling sites, inducements, and marketing).

Only a small proportion of people experiencing gambling-related harms receive support and treatment

Referral and triage

Initial support and advice can be provided across multiple health and social care settings, but people with gambling-related harms (including affected others) may need to be referred to gambling treatment or support services such as a specialist NHS gambling treatment clinic or services via the voluntary sector, or advised that self-referral is also an option.

- Consider referring people with gambling related harms, via an NHS triage service, for triage and allocation to an appropriate level of service.
- When discussing support or treatment with the person, tell them that self-referral, via an NHS triage service or the national gambling helpline, is an option.
- Recognise that gambling severity can vary over time and recent onset or short periods of less intense gambling, even after a period of abstinence, can lead to severe harms in some people, and may require referral to a gambling treatment service.
- Consider referring affected others to gambling treatment or support services, depending on their level of need.

Psychological and pharmacological treatments

The effectiveness of psychological treatments for people experiencing gambling-related harms was determined by carrying out a systematic review and network meta-analysis of 48 studies assessing psychological treatments, and developing an accompanying health economic model. This found that group cognitive behavioural therapy (CBT), tested on 121 participants across six trial arms in the network, was associated with improvements in gambling symptom severity when compared with no treatment (which was the reference treatment) (standardised mean difference (SMD) -1.08, 95% confidence interval (CI) -1.82 to -0.35).

Individual CBT, tested on 592 participants across 17 trial arms in the network, was also associated with an improvement in gambling symptom severity when compared with no treatment (SMD -0.54, 95% CI -1.11 to 0.04). Meanwhile, motivational interviewing, tested on 303 participants across five trial arms in the network, showed some improvement in gambling symptom severity when compared with no treatment, which was lower than that of other treatments and was characterised by uncertainty (SMD -0.29, 95% CI -0.90 to 0.32). Group CBT was shown to be the most cost-effective treatment option among those assessed in the guideline economic analysis, followed by motivational interviewing. All three treatments were cost effective under a public sector perspective, which considered costs to the NHS and personal social services, criminal justice system costs, homelessness support and welfare/unemployment benefits associated with gambling-related harms.

The efficacy of pharmacological treatments was determined using a 2022 Cochrane review of 17 studies assessing pharmacological treatments, with most of the evidence being of very low certainty.[8] Naltrexone was the only option recommended by the committee, to be started by or under the direct supervision of specialists.

- Discuss and agree the aim of treatment for gambling that harms (typically abstinence) with the person.
- Consider motivational interviewing to strengthen people's confidence and commitment to change, or to encourage people who are unsure or have reservations about starting treatment.
- Offer group CBT to reduce gambling severity and frequency. Start this intervention as soon as possible after diagnosis.
- Offer individual CBT if the person does not wish to join a group, if group therapy is not possible (for example, no other people are available to form a suitable group), or it is assessed as not suitable for the person.
- CBT should:
  - Be delivered as a group intervention ideally by two practitioners at least one of whom has gambling specific CBT training and competence, or as an individual intervention by one practitioner with gambling specific CBT training and competence
  - Be delivered in line with evidence based treatment protocols
  - Be provided as a course, usually with eight to 10 sessions for group therapy or six to eight sessions for individual therapy (in some cases more sessions may be needed or fewer sessions may be sufficient)
  - Include a relapse prevention component (covering, for example, how to deal with triggers, and how to respond to a relapse).
- Commissioners and providers should ensure that the workforce delivering support and treatment services to people experiencing gambling-related harms is trained and competent to do so (for example, CBT should be delivered by psychologists or accredited CBT therapists).

GUIDELINES INTO PRACTICE

- How do you assess whether gambling may be a contributory factor when people present with depression, anxiety, or suicidal ideation?
- What local gambling support and treatment services are available? How do you refer to them?

HOW PATIENTS WERE INVOLVED IN THE CREATION OF THIS ARTICLE

LR was a lay member on the committee and an affected other. Committee members involved in this guideline update included other lay members who had lived experience and who contributed to the formulation of the recommendations summarised here.

Implementation

Implementation requires additional resources, changes to the configuration of gambling support and treatment services nationally, and the development of new systems for referral and triage. Currently, gambling treatment services are mainly provided by the voluntary sector and commissioned by the charity GambleAware using money from voluntary donations from the gambling industry. The UK government has announced that the introduction of a statutory levy on the gambling industry is replacing this current system from April 2026, with commissioning being taken over by the NHS, although it is likely that services will be provided by both NHS and voluntary sector providers. Therefore, there will be a period before these changes can be fully implemented.

Increased identification of people experiencing gambling-related harms is likely to increase the number of people seeking and needing support and treatment, including CBT within gambling treatment services. To support this the NHS gambling service is expanding and there are now 15 specialist gambling treatment clinics in place and further resourcing for treatment services is planned to be provided via the forthcoming levy. Earlier identification may help reduce the number of people experiencing severe harms, including self-harm and suicidal ideation.

NICE has produced a resource impact tool and implementation support which can be accessed at https://www.nice.org.uk/guidance/ng248/resources.

Future research

Evidence is lacking for many of the topics considered during guideline development and so a range of research recommendations were made, of which the following three were prioritised:

- What is the accuracy of individual brief screening tools in identifying gambling-related harms?
- What is the accuracy of tools to assess gambling-related harms?
- What is the effectiveness and cost effectiveness of care pathways and models of care for people who experience gambling-related harms (including those with comorbid conditions such as depression, anxiety, and substance use disorders, those at high risk and those under-represented in services)?

Competing Interests: See bmj.com.

Cite this as: *BMJ* 2025;388:r323

Find the full version with references at http://dx.doi.org/10.1136/bmj.r323

EDITORIAL

Gambling harms need a public health approach

Guidelines focus on the individual, while industry escapes scrutiny

Harmful gambling is a global public health issue that is attributable to the rapid expansion of commercial gambling industries,[1] which has driven population exposure to high intensity gambling products and commercial practices of the gambling industry.

Such practices include pervasive advertising and marketing and efforts to subvert evidence and policy, which have strong parallels with the tobacco industry.[2 3] "Gambling that harms" is the terminology used by NICE[4] to refer to gambling behaviour that causes harm, problems, or distress and is linked with adverse outcomes including significant debt,[5] mental health problems,[6] family violence,[7] and suicidality.[8]

In January 2025, NICE issued guidelines for commissioners and providers of healthcare and social care services, as well as gambling support services, which focus on improving the identification, assessment, and management of gambling harms.[9] These guidelines frame gambling harm as a health related concern that should be tackled across service use environments, while increasing visibility of specialist gambling services in the UK.

We welcome this and expect the guidelines will prompt better recognition of gambling harms in healthcare settings. But we have reservations about some features of these guidelines, namely a recommendation that amounts to universal screening for gambling harm and the narrow scope. This limited focus may inadvertently distract from much needed strategies to prevent harm and regulate practices of the gambling industry.

The new NICE guidelines recommend that healthcare and social care practitioners in all settings ask about gambling, even if there are no risk factors for harm, when asking about smoking, alcohol, or substance use.

Individual responsibility for reducing gambling harm distracts from necessary regulatory intervention

Sean Cowlishaw, associate professor of psychology, Monash University, Australia
sean.cowlishaw@monash.edu
Amanda Roberts, professor of psychology, University of Lincoln
Sanju George, consultant in addiction psychiatry, Birmingham and Solihull Mental Health NHS Foundation Trust
David Kessler, professor of primary care, Bristol Medical School

Although we recognise that some evidence indicates a case for screening in substance use or mental health services, we expect resistance to this recommendation in primary care where there are immense workforce pressures and competing demands. In such contexts we have previously advocated for targeted strategies involving selective questioning of at-risk groups (such as young men) and training practitioners to recognise signs and risk factors for gambling harm,[12 13] and we maintain that these are sensible recommendations in the absence of robust evidence.

Our main reservation, however, concerns the narrow scope of the guidelines, which outline responsibilities for commissioners and providers of healthcare, social care, and gambling support services. A comprehensive public health approach to reducing harm is needed, and the guideline's focus on identification, assessment, and management of gambling harms is ultimately only a small part of this.

Focus on prevention

A comprehensive public health approach must prioritise prevention, including thorough campaign strategies to denormalise gambling, regulatory controls on harmful products and advertising, and measures to protect policies and evidence from the vested interests of commercial industries that derive revenues from gambling harms.

Governments globally might have moved to adopt the language of public health, but this is rarely matched by strategies to denormalise gambling or tackle harmful environments and industry practices. Instead, there are many examples of efforts to obfuscate and delay prevention programmes and policies that threaten gambling revenues and taxation.[14 15] These may involve efforts to direct attention towards individuals who are harmed by gambling, and away from gambling environments and industry practices that are the major drivers of gambling harm.

This is a well-founded criticism of so-called responsible gambling frameworks that place responsibility for reducing harm with the individual and distract attention away from regulatory interventions that prevent harm but reduce gambling revenues.[16 17]

The NICE guidelines provide clinical solutions that focus on the individual, and on their own comprise partial and limited responses to the societal challenge of gambling harm. We recognise that some policy interventions may be out of scope for NICE, but there is nothing precluding a focus on prevention. Guidelines on preventing tobacco uptake, for example, include recommendations on mass media campaigns, strategies to denormalise smoking, and school based interventions, including smoke-free policies. No such efforts appear in the guidelines on gambling harm.

The guidelines must not distract from the substantial need for a comprehensive public health approach that includes regulatory interventions and measures to protect evidence and policy from vested interests.

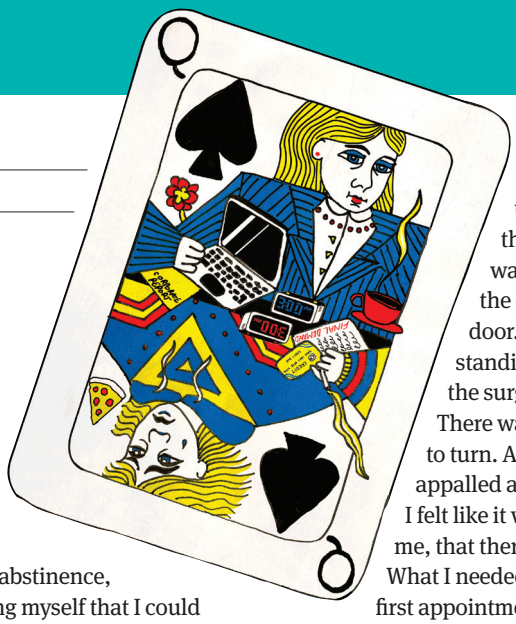
Cite this as: *BMJ* 2025;388:r447

Find the full version with references at http://dx.doi.org/10.1136/bmj.r447

Offer me hope to overcome gambling harm

CPD READING
0.5 HOURS

Sue Acton describes the harms she experienced from gambling, and how she was able to get help



PRIYA SUNDRAM

I developed a severe gambling problem in 2006. Before then, it was just the odd lottery ticket or a small bet on a horse at a corporate awayday. As a child, I can remember begging my mum for one more tombola ticket at the church fete or another handful of pennies at the amusement arcade on family holidays, so perhaps the signs were there.

My gambling went from nought to a hundred almost overnight. Within a couple of weeks, I was staying up all night playing slot machines online. I was losing thousands of pounds. I was neglecting my work and my wellbeing and lying to friends and family. Desperate, I remember telling myself that if I could just win back what I'd lost I would stop. I did win back what I'd lost. But I didn't stop, and it just kept getting worse.

The next five to 10 years were a blur. I lived a kind of double life. Even now I can't explain it. I was in my early thirties and lucky in so many ways. I was a senior manager within financial services, I had an Oxbridge education, I had just bought and moved into a new home, and I had a wonderful family and circle of friends. Instead of going on holiday during annual leave, I had week long gambling binges where I wouldn't wash or get dressed. I would eat junk food, chain smoke, and fall asleep at my computer while gambling. There were periods of abstinence, and periods of deluding myself that I could gamble in a controlled way. At the same time, I would put on a suit and make up, go to work, and be corporate Sue. I supported my mum when my dad was diagnosed with dementia. I spent time with family and friends. I did lots of "normal life" stuff.

Looking for help

As I came out of yet another gambling binge and surveyed the financial and emotional damage, including letting my young nieces down, I realised I needed help. I went to a Gamblers Anonymous meeting but as a woman I was mistaken by the all-male group as being there to support someone else, so I didn't go back. I called GamCare's helpline, which was a very positive experience because for the first time I felt heard and understood. I also tried therapy, but the counsellor looked so shocked when I disclosed my financial losses that I felt I couldn't trust her to help me.

In what felt like a last resort, I went to see my GP. To this day I still don't know whether he was blindsided, disapproving, didn't understand, or was just having a bad day. Back then neither the Primary Care Gambling Service nor the NHS Gambling Clinics existed. My doctor muttered a few platitudes, printed off details for Gamblers Anonymous, and then let me know the appointment was over by opening the consulting room door. I remember standing outside the surgery sobbing. There was nowhere left to turn. Ashamed and appalled at what I'd done, I felt like it was all over for me, that there was no hope. What I needed most at that first appointment was to be taken seriously and to be offered hope. I didn't expect my GP to fix the problem, I just wanted to leave the surgery with a tiny glimpse of light at the end of the tunnel.

Finding hope

In the end, it was a combination of Gamblers Anonymous (a different meeting in a different town) and therapy from a counsellor trained in gambling harms together with peer support through a charitable organisation called Gordon Moody that helped me turn things around, as well as the support of family and friends when I eventually came clean.

I'm still dealing with the "legacy harms," or long term consequences, of gambling; recovery is a lifelong journey. I have money worries, housing issues (my home was eventually repossessed), health issues, and feelings of sadness and regret around lost opportunities and lost time with loved ones. But there are new and unexpected opportunities too: the chance to rebuild old relationships and forge new ones, and the joy of rediscovering a love of travel and being outdoors. And I have perhaps the most important thing: hope.

Competing interests: See bmj.com.
Cite this as: *BMJ* 2025;388:r331

WHAT YOU NEED TO KNOW

- Anyone can experience gambling harm (or can be harmed by another's gambling), so put aside preconceptions and ask about it. Your patient may have spent months if not years building up the courage to ask for help
- Remind patients that there is hope. It may not be easy or linear and it will almost certainly take time, but people can and do recover from the bleakest of gambling situations
- Offer choice. Everyone is different when it comes to treatment and support options, and it may take time to find the right solution for each person

EDUCATION IN PRACTICE

- How can you create an environment where people feel able to share their concerns without fear of judgment?
- What support are you aware of locally and nationally to assist people seeking help with gambling?
- How can you empower and enable people to access self-referral and community based resources?

ADDITIONAL INFORMATION

- Gamblers Anonymous. https://gamblersanonymous.org.uk
- National Gambling Support Network. https://www.gambleaware.org/tools-and-support/support-in-your-area/
- Primary Care Gambling Service. https://www.primarycaregamblingservice.co.uk
- NHS. https://www.nhs.uk/live-well/addiction-support/gambling-addiction/

PRACTICE POINTER

Assessment and management of dengue

Sudeep Adhikari,[1] Sangeeta Bhusal,[2] Md. Shabab Hossain,[3] Buddha Basnyat[4]

[1]Department of Internal Medicine, College of Medical Sciences Teaching Hospital, Chitwan, Nepal
[2]Department of Microbiology, College of Medical Sciences Teaching Hospital, Nepal
[3]Nutrition and Clinical Services Division, International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), Bangladesh
[4]Oxford University Clinical Research Unit-Nepal, Kathmandu, Nepal
Correspondence to: S Adhikari sudeepadh123@gmail.com

CPD READING
0.5 HOURS
LEARNING MODULE
See learning.bmj.com for linked learning module

Dengue (dengue fever, breakbone fever), an arboviral infection transmitted by *Aedes* mosquitos, is endemic in more than 100 countries in the World Health Organization (WHO) regions of Africa, the Americas, the Eastern Mediterranean, South-East Asia, and the Western Pacific.[1] Although most patients are asymptomatic or recover after a febrile phase, 2-5% develop severe disease and may require intensive care.[2] Mortality is 5% among severe dengue.[2]

Previously limited to tropical regions, outbreaks now occur in subtropical and temperate regions, including high altitude areas (such as Kathmandu, Nepal).[2 4 5] In North America and Europe, where dengue is a common cause of fever in travellers returning from endemic areas,[6 7] autochthonous (locally acquired) cases have also been reported.[8-10]

The advice we provide here is based on the most up to date guidelines issued by WHO global headquarters (the 2009 Dengue guidelines for diagnosis, treatment, prevention and control[13]) as well as updates from more recent regional WHO and CDC (Centers for Disease Control and Prevention) papers.[1 11 14-18] It is relevant to all endemic and non-endemic countries.

WHAT YOU NEED TO KNOW

- Consider dengue in patients with fever who reside in endemic regions or who have visited such regions in the past 14 days
- Some 20-40% of patients with dengue virus infection experience symptoms, including a high grade fever: these usually occur five to seven days after infection and last for between two and seven days
- Around 95% of those who experience symptoms of dengue will recover after a self limiting febrile illness. Around 5% will deteriorate into a critical phase, when they may develop warning signs and progress to severe dengue. Be alert to the warning signs in all patients with dengue, irrespective of disease phase
- Treatment for dengue is supportive, including paracetamol as an antipyretic and analgesia and advice regarding identification of warning signs and progression to severe dengue. Patients admitted to hospital will be monitored with careful management of fluid balance. Those with severe dengue may require organ support in an intensive care setting

Terminology and definitions

The classifications in box 1 replaced the 1997 WHO classifications of "dengue fever," "dengue haemorrhagic fever," and "dengue shock syndrome," but these older terms are still used in some regions.[15]

In this article, we mainly use the terms "febrile, critical, and recovery phase" and, within that, "warning signs" and "severe dengue."

How do symptomatic patients present?

Only 20-40% of patients are symptomatic, with most symptomatic people experiencing a self limiting acute febrile illness.[2 13 21]

Febrile phase

This phase is characterised by high grade fever (typically up to 40°C) with severe headache (75% of patients), anorexia (64%), muscle or joint pain (61%), nausea (44%), retro-orbital pain (32%), , vomiting (27%), and transient macular rashes (13%).[26] It usually occurs 5-7 days after infection, lasts 2-7 days, and, in around 95% of cases, is followed by the recovery phase.[2 11 13 14] Adults more commonly develop aches and nausea, while children more commonly experience vomiting and rashes.[27]

Consider differential diagnoses and co-infections according to geographical prevalence.[16 28 29] In travellers returning to non-endemic countries, consider dengue when acute undifferentiated febrile illness has been present for up to 14 days.[14]

Examination[2 13 21]:

- Normal blood and pulse pressures
- Positive tourniquet test (see box 1).[11]

Investigations[2 13 21]:

- Full blood count may show leucopenia and/or thrombocytopenia
- Record a baseline haematocrit
- Consider ultrasound to look for subclinical fluid accumulation.[30]

Critical phase

Towards the end of the febrile phase but possibly earlier, about 5% of patients deteriorate into a critical phase,[11 22 31] when warning signs (box 2) are present and severe dengue (see box 1) may develop. The positive predictive values of individual warning signs for progression to severe dengue, range from 9% (for persistent vomiting) to 58% (fluid accumulation), but negative predictive values are higher (greater than 95% for each of the individual warning signs).[38] Unless organ support is needed, the critical phase usually lasts 2-3 days.[2 13]

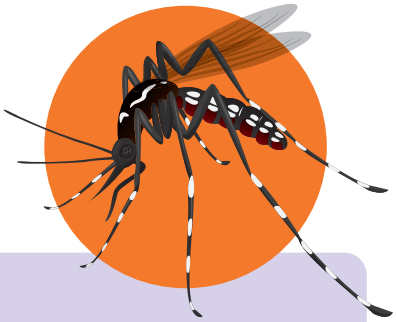
Examination[2 13 21]:

- Monitor (every 2-4 hours) for the development of severe dengue by assessing airway, breathing, and circulation (including blood pressure, and urine output) and consciousness.
- There might be fluid accumulation (from plasma leakage) (box 2) on examination or with bedside ultrasound.

thebmj Visual summary

Symptomatic dengue

Assessing and monitoring patients



Previously limited to tropical regions, dengue outbreaks have begun occurring in subtropical and temperate regions. The clinical approach to assessment we outline in this graphic is relevant to all endemic and non-endemic countries, based on WHO and CDC guidelines and updates. See the full paper for more detail on diagnosis and management.

Febrile phase

- Usually occurs 5-7 days post infection, and lasts 2-7 days
- Adults tend to develop aches and nausea
- Children tend to exhibit vomiting and rashes

Patients experienced the following symptoms

- 75% High grade fever with severe headache
- 64% Anorexia
- 61% Muscle/joint pain
- 44% Nausea
- 32% Retro-orbital pain
- 27% Vomiting
- 13% Transient macular rashes

Are risk factors for severe dengue present?

- NO → Discharge for home care
- YES → Admit for monitoring and symptom management

Also consider admission for people who reside far from hospitals, live alone, or are experiencing poverty

Monitor for dengue warning signs

Critical phase

5%

1 or more dengue warning signs

Usually towards the end of the febrile phase, but may be earlier

Admit for monitoring and symptom management

Dengue warning signs

- Persistent vomiting: ≥3 episodes in 1 hour or 4 episodes in 6 hours
- Abdominal pain or tenderness
- Mucosal bleeding; usually gum and nose bleeds; sometimes vaginal or gastrointestinal bleeds or haematuria
- Clinical fluid accumulation/plasma leakage such as ascites, pleural effusion, or oedematous gall bladder wall
- Increase in haematocrit concurrent with rapid decrease in platelet count
- Liver enlargement >2cm
- Restlessness
- Lethargy

Severe dengue

2-5% of patients with febrile dengue develop severe disease and may require intensive care. Mortality for people who develop severe dengue is around 5%.

Symptoms include one or more of:

- Compensated or hypotensive shock
- Severe bleeding
- Respiratory distress
- Severe organ impairment

Consider admission to intensive care unit

95%

In patients who do not develop critical phase, the recovery starts soon after the resolution of fever

For critical phase and severe dengue, recovery starts soon after fluid accumulation reversal occurs

Risk factors for severe dengue

- Pregnancy
- Infants <1 year old
- Diabetes
- Adults >65 years old
- Hypertension
- Chronic kidney disease
- Heart failure
- Asthma
- Obesity

Recovery phase

Complete recovery may take a few days to a few weeks

Patients may develop

- Erythematous, pruritic rashes with islands of normal skin (Herman's rash)
- Post viral fatigue and depression over weeks to months in a fifth to a third of adult patients

- In severe dengue:
  - Narrow pulse pressure occurs if systolic blood pressure decreases and diastolic increases
  - Cool, clammy extremities might indicate hypotensive or compensated shock
  - Assess for bleeding (mucosa, orifices, skin) that may occur with severe thrombocytopenia or coagulopathy
  - Consider severe bleeding if haematocrit decreases and the patient remains haemodynamically unstable (cool clammy extremities, low blood pressure, decreased urine output) despite intravenous fluids resuscitation
  - Assess for signs of organ impairment (such as hepatic failure, encephalopathy, cardiomyopathy).

Box 1 | Classifications of dengue

WHO (2009)[13]

Case definition—High grade fever lasting at least two days; plus at least two of the following: rash, nausea or vomiting, aches, positive tourniquet test for capillary fragility,* leucopenia, the presence of any dengue warning sign (see box 2)[2 11 13]

Symptomatic dengue—Categorised as dengue fever without warning signs, dengue fever with warning signs, or severe dengue[13]

Severe dengue—One or more of: compensated and/or hypotensive shock,† respiratory distress, severe bleeding, severe organ impairment[2]

Group A/B1/B2/C classification—Used for management (see table 2):
A: Dengue fever without warning signs, and with no risk factors (box 2)
B1: Dengue fever without warning signs, with any risk factor
B2: Dengue fever with any warning sign
C: Severe dengue.

WHO (2009)[13] and CDC Yellow Book on traveller's health (2024)[14]

Disease course terminology—Febrile, critical, and recovery phases

* The tourniquet test entails inflating a sphygmomanometer cuff on the arm to a point midway between the patient's systolic and diastolic blood pressures and maintaining it for five minutes: in a positive result, ≥10 petechiae per square inch will appear in the cubital fossa 1-2 minutes after deflating the cuff[11]

† Maintained systolic blood pressure (>90 mm Hg) with pulse pressure <20 mm Hg indicates compensated shock, while systolic blood pressure <90 mm Hg indicates hypotensive shock[13]

Box 2 | Dengue warning signs and risk factors for severe disease[9 13 17]

Warning signs

- Abdominal pain or tenderness
- Persistent vomiting (≥3 episodes in 1 hour, or 4 episodes in 6 hours)
- Fluid accumulation from plasma leakage (such as ascites, pleural effusion, oedematous gall bladder wall, peripheral oedema)
- Mucosal bleeding (usually gum or nasal bleeding, sometimes vaginal or gastrointestinal bleeding or haematuria)
- Lethargy
- Restlessness
- Liver enlargement >2 cm
- Laboratory: increase in haematocrit, concurrent with rapid decrease in platelet count

Risk factors for severe disease

- Pregnancy[12 32]
- Infants <1 year old[33]
- Adults >65 years old[34]
- Underlying health conditions (diabetes, asthma, hypertension, chronic kidney disease, heart failure)[35 36]
- Obesity[37]
- Also consider people who reside far from hospitals experience extreme poverty (who may not receive adequate home care and be unable to attend follow-up)

Investigations[2 13 21]:

- Haematocrit increases, at least 20% from baseline concurrent with rapid thrombocytopenia (a low or normal haematocrit may indicate bleeding).
- Liver function tests may show moderate elevation in transaminases.
- Monitor kidney function and electrolytes.
- If severe dengue develops:
  - Increased haematocrit with hypotensive or compensated shock indicates severe plasma leakage
  - Decreased haematocrit with hypotensive or compensated shock indicates severe bleeding
  - Aspartate and alanine transaminases >1000 units/L indicate severe hepatic impairment
  - Monitor blood glucose, kidney function, electrolytes, coagulation profile, and cardiac enzymes as indicated.

Recovery phase

The recovery phase starts soon after plasma leakage reversal, about 48-72 hours after the start of the critical phase. If patients do not enter a critical phase, recovery starts soon after defervescence (resolution of fever).[2 13 21]

Complete recovery may take between a few days and a few weeks. Erythematous, pruritic rashes with islands of normal skin (Herman's rash) may develop. Improvement is usually rapid, but a fifth to a third of adult patients may develop post-viral fatigue and/or depression in the weeks and months after.[2 39]

Examination[2 13 21]:

- Stable blood pressure
- Diuresis.

Investigations[2 13 21]:

- Haematocrit stabilises or might fall due to reabsorption of leaked fluid
- White cell count and platelets begin to normalise.

HOW PATIENTS WERE INVOLVED IN THE CREATION OF THIS ARTICLE

Based on the story of a patient who kindly shared her experience of having dengue, we amended the section now titled management considerations.

EDUCATION INTO PRACTICE

- What diagnosis and treatment protocols are in place in your region?
- How do you balance reassuring patients with dengue while ensuring they remain alert to the possibility of developing warning signs?

Table 1 | Diagnostic tests for dengue[2 13 21]

Test and method	Sensitivity and specificity[40]	Note
Days 1-5 of illness		
NS1 RDT	Sensitivity 76.5%* Specificity 100%*	Interpret negative tests with caution. Sensitivity lower in secondary infections.[41] Interpret patients' self tests with caution as many commercially available rapid tests are unreliable.[42]
NS1 ELISA	Sensitivity 82.4%* Specificity 94.3%*	
Virus/nucleic acid detection by culture or RNA detection (PCR)	Considered reference standard	
Day ≥3 of illness		
IgM RDT	Sensitivity 17.9% Specificity 97.1%	Many commercially available rapid tests are unreliable.[42]
IgM ELISA	Sensitivity 27.5% Specificity 91.4%	
IgG RDT or ELISA	In primary infection: positive after 7 days (unhelpful for acute illness) In secondary infection: positive after day 3.[43]	

*Compared with PCR.

ELISA = Enzyme linked immunosorbent assay. IgG = Immunoglobulin G. IgM = Immunoglobulin M. NS1 = Non-structural protein 1, a protein found in the blood of people infected with dengue and other flaviviruses. PCR = Polymerase chain reaction. RDT = Rapid diagnostic test.

What investigations confirm the diagnosis?

Consider tests as outlined in table 1.[2 13 21]

How is it managed?

In the absence of warning signs or risk factors for severe disease, avoid hospital admission where possible.[4] Instead, discharge with detailed home care guidance and safety-netting advice (table 2).

No specific antiviral or disease-modifying treatment has proved beneficial to date. WHO recommends supportive treatment and reassurance. In patients admitted to hospital, recommendations include regular monitoring of vital signs, urine output, and haematocrit (frequency dependent on illness phase/severity); and monitoring other bloods with consideration of blood transfusion/organ support where clinically indicated.[13]

Management considerations

Tepid sponging

Tepid sponging for fever control is recommended by all dengue guidelines.[13-15 17] In the UK, however, NICE guidance does not recommend tepid sponging for fever in children under 5 years old.[47] We suggest discussing the potential effects of chills, goose pimples, and discomfort to patients when considering this.[48]

Paracetamol

Paracetamol is the antipyretic and analgesic of choice (for adults, 0.5-1 g every 4-6 hours; maximum 4 g per 24 hours).[13] We recommend using paracetamol with caution and to discontinue if hepatic transaminases rise more than three times the upper limit of normal.

Competing interests: None declared.

Cite this as: *BMJ* 2025;388:e082639

Find the full version with references at doi: 10.1136/bmj-2024-082639

Table 2 | Management recommendations based on WHO, PAHO (Pan American Health Organisation), and CDC guidelines[2 11 13 14 17 21]

Disease phase, WHO group	Admit or discharge	Management
Febrile phase		
Group A (without warning signs or risk factors)	Discharge	Home care: tepid sponging (see considerations in text), paracetamol, oral fluids. Advise patients to: - Aim for micturition at least every 4 hours[13] - Be alert to development of warning signs and severe dengue; seek urgent review if they develop - Prevent spread at home (vector control) - Reassure that around 95% of people with dengue in this phase recover without long term consequences or complications[11]
Group B1 (without warning signs, with risk factor(s))	Admit	Symptom management Oral fluids 2-4 hourly monitoring of blood pressure and urine output Daily blood counts with haematocrit
Critical phase		
Group B2 (with warning signs)	Admit	Symptom management Intravenous fluids as per WHO algorithm (see full article on bmj.com) Counsel patients about possible deterioration into severe dengue 2-4 hourly monitoring of blood pressure, pulse pressure, urine output, and consciousness; if there is deterioration, manage as severe dengue 6-12 hourly bedside haematocrit; daily blood tests to monitor platelets, electrolytes kidney and liver function; cardiac enzymes if myocarditis (a potentially serious complication of dengue) is suspected
Group C (severe dengue)	Admit (consider ICU[44])	Treat compensated or hypotensive shock as per WHO fluid resuscitation algorithm* After stopping fluids, observe for deterioration for 24-48 hours Consider urgent blood transfusion for patients with severe bleeding (decreased haematocrit with hypotensive or compensated shock) Monitor organ function and manage severe organ impairment with organ support (mechanical ventilation, haemodialysis, or inotropic support) 1-2 hourly monitoring of blood and pulse pressure, and urine output (maintain output at >0.5 mL/kg/hr) Monitor haematocrit after every intravenous fluid bolus and if clinical deterioration Assess for fluid overload and pulmonary oedema, which can occur when plasma leakage reverses (stop fluid and give loop diuretics urgently if pulmonary oedema occurs[45])
Recovery phase		
	Discharge	Indications for discharge are absence of fever for ≥48 hours, improved wellbeing and appetite, normal vital signs, urine output >0.5 mL/kg/hr, increasing platelet count, stable haematocrit without intravenous fluids[11] Follow up in 1-2 months by hospital discharge team to assess for fatigue and depression

*We recommend monitoring for fluid accumulation before and during fluid resuscitation.[13]

Urinary problems in men: self-management advice is helpful

The study

Lower urinary tract symptoms in men: the TRIUMPH cluster RCT

Worthington J, Frost J, Sanderson E, et al

Health Technology Assessment 2024;28:1-162

CPD READING

0.5 HOURS

NIHR | National Institute for Health and Care Research

NIHR Alerts are summaries of NIHR-funded research with novel findings and implications for practice. They are intended for health and care professionals, commissioners, researchers and members of the public.

To read the full NIHR Alert, go to: https://tinyurl.com/mr34t2jj

Why was the study needed?

Urinary problems might be caused by an enlarged prostate, impaired bladder function, or both. Problems become more common as men age. Symptoms can cause distress, disrupt sleep, or, for example, mean that trips have to be planned around available toilets.

National Institute for Health and Care Excellence guidelines recommend offering advice to men with urinary problems (pelvic floor exercises and lifestyle changes, for instance) before trying tablets or surgery. It is not known how helpful this advice is.

What did the study do?

The researchers invited 1077 men who had presented to primary care with lower urinary tract symptoms in the past five years from 30 GP surgeries in England. Half were randomly allocated to receive self-management advice and were directed to relevant sections of a patient booklet developed by the researchers. They were also contacted by clinicians (nurses and healthcare assistants) three times over 12 weeks to encourage them to follow the advice. The others received usual care, which varied but could include advice, medication, referral to a consultant, or continuing to live with symptoms.

What did it find?

The main outcome of the study, based on 424 men in the advice group and 463 in the usual care group, was improvement in urinary problems at 12 months measured using the validated patient reported International Prostate Symptom Score. The researchers sought to detect a difference of 2.0 points rather than the minimum clinically important difference of 3.0 points, recognising that men might be bothered by just one symptom (eg, nocturia). Compared with usual care, those who received self-management advice:

- Had a greater improvement in their symptoms; the overall improvement was slightly less than is considered meaningful (adjusted mean difference in the intervention group of −1.81 points, 95% confidence interval −2.66 to −0.95 points)
- Reported slightly better quality of life and felt better about their urinary problems.

There was no difference between groups in the likelihood of a urology referral or an adverse event, and costs to the NHS per patient were similar in both groups.

The researchers also conducted qualitative interviews with 58 men with urinary problems who participated in the study. Many had been unaware of self-management techniques for urinary problems before they took part. Those receiving the booklet generally welcomed the advice, and said it improved their symptoms and their understanding of their urinary problems. They appreciated their problems being taken seriously and not dismissed as a normal part of getting older. By contrast, men in the usual care group were often resigned to their symptoms and felt that they would not change. Some said that opportunities for detailed self-management advice had been missed in GP consultations.

Why is this important?

The self-management advice provided a small, sustained benefit in men's urinary problems and offered value for money. Men appreciated the advice and the control it offered over their symptoms.

Although improvement in symptoms did not reach the study's target, researchers say that the advice is still beneficial because the improvement was sustained one year after initial contact and many men did report a meaningful improvement and improved quality of life. The lack of awareness of self-management for urinary problems among men reinforces the importance of the advice, they say.

Almost all (98%) men in the study were white; further work is required to show that the findings apply to people of other ethnicities.

What's next?

The researchers suggest that more men could be given the self-management advice booklet at a relatively low cost. In addition, nurses and healthcare assistants need minimal training to advise men with urinary problems using the resources provided by the trial.

The researchers are working with their local primary care services to develop a guide for primary care clinicians on assessing urinary problems, including helping patients keep a bladder diary. The guide will appear as a prompt on their computer when they begin these consultations. In addition, an adapted version of the booklet developed for this study is being used in another study supporting the health of older people in Zimbabwe.

Competing interests: *The BMJ* has judged that there are no disqualifying financial ties to commercial companies.
Further details of other interests, disclaimers, and permissions can be found on bmj.com

Cite this as: *BMJ* 2025;388:q2660

SPOT DIAGNOSIS

A woman with enlarged hands and feet

A woman in her 40s reported a two month history of her shoes and gloves becoming increasingly tight, headaches, blurred vision, and a tight sensation in her skin. She did not report any joint pain or limb numbness. She had experienced amenorrhoea for one year, which was treated with traditional Chinese medicine without improvement. She also had a one year history of hypertension, which was well controlled with amlodipine.

On examination, her height was 145 cm, weight was 60 kg, and her body mass index (BMI) was 28.5. She had rough skin, an enlarged nose and tongue, thickened lips, and macrodactyly of the hands (figure) and feet. Her voice was deeper than it had been. Visual field testing indicated bitemporal hemianopia. The table summarises the laboratory test results.

Laboratory test results

Test	Result	Reference range
Prolactin (ng/mL)	39.8	5.18-26.53
Random growth hormone (ng/mL)	67.8	0-2.1
Insulin-like growth factor 1 (ng/mL)	770	101-267 (ages 41-45)
Fasting blood glucose (mmol/L)	7.4	3.9-6.1
Oral glucose tolerance test (mmol/L)	11.3	0-7.8
Growth hormone nadir during oral glucose tolerance test (ng/mL)	47.6	<0.4 (BMI <25); <0.2 (BMI ≥25)
HbA1c (mmol/mol)	46	16-42

BMI=body mass index

Thickened dorsal hands, rough skin, and thickened fingers

What is the most likely diagnosis?

Submitted by Yuanhong Ge, Qingjia Lai, and Xuejun Xu

Patient consent obtained.

Cite this as: *BMJ* 2025;388:e083320

answers

SPOT DIAGNOSIS **A woman with enlarged hands and feet**

What is the most likely diagnosis?

Acromegaly secondary to a growth hormone secreting pituitary adenoma. Acromegaly is caused by excessive secretion of growth hormone. Over 95% of acromegaly cases are due to somatotropinomas, which are benign pituitary adenomas.

Typical clinical presentations include skin roughness, enlarged nose, thickened lips, prominent jaw, and macrodactyly.

The goal of treatment is to suppress growth hormone secretion, reduce IGF-1 levels, and control tumour growth to manage related symptoms and complications. Treatment strategies include surgery, medication, and radiotherapy. Surgery is often the preferred treatment, especially for non-invasive microadenomas and macroadenomas with optic chiasm compression.

Drug treatments are usually considered for patients in whom surgery is not an option, or for those whose symptoms persist after surgery. Radiotherapy may be used as an adjunct treatment when surgery and drugs are insufficient or ineffective, because it can take years to achieve biochemical remission. In this context, radiotherapy is either fractionated radiation therapy (25-30 treatments over 5-6 weeks) or single fraction radiation therapy.

Acromegaly caused by somatotropinoma requires lifelong surveillance to prevent or minimise the harmful effects of excess growth hormone and IGF-1. For patients who have undergone surgery, IGF-1 should be measured every 3-6 months during the first postoperative year to confirm remission, then monitored every 6-12 months to detect potential recurrence. An MRI (magnetic resonance imaging) of the pituitary gland should be performed 3-6 months postoperatively. Subsequent MRIs should be conducted if there are signs of disease progression or before planning for a second surgery or radiotherapy. For patients on drug treatment, growth hormone and IGF-1 should be checked every 1-3 months after starting medication (the specific schedule can be adjusted according to the drug). The drug plan should be adjusted until the optimal regimen is achieved. Thereafter, growth hormone and IGF-1 should be checked every 6-12 months.

LEARNING POINTS

- Acromegaly is diagnosed based on clinical manifestations and elevated IGF-1 levels (≥1.3 times the upper limit of normal for age). If needed, growth hormone nadir cut-offs during an oral glucose tolerance test can also be used.
- Surgery is the preferred treatment. Drugs and radiotherapy are used as adjunctive treatments, or where surgery is not an option.
- Lifelong monitoring includes regular growth hormone or IGF-1 tests and periodic MRI scans.

PATIENT OUTCOME

See bmj.com.

CPD READING
0.5 HOURS

You can record CPD points for reading any article. We suggest half an hour to read and reflect on each.

LEARNING MODULE

Articles with a "learning module" logo have a linked BMJ Learning module at learning.bmj.com.