

education

ART OF MEDICINE

Why would I smile?

"Why won't you smile?" I asked my patient after several weeks of treating his psychotic symptoms. Although he reported feeling more upbeat compared with when he was admitted, he



never smiled. His answer was profound: "Look at my teeth. I barely have any left, and whatever is left looks gross. Why would I smile?"

Dental disease is a pervasive problem among people with mental illness. Lack of motivation due to mood or psychotic disorders can result in reduced attention to dental hygiene. Disorganised thinking, delusional beliefs about dentition, specific dental phobias, and symptoms of mania can all interfere with the ability to appreciate the consequences of poor dental hygiene. Eating disorders involving vomiting or malnutrition can erode enamel and weaken teeth. Financial constraints commonly encountered by patients with mental illness can impede access to or ability to afford dental care. Illicit substances and tobacco products can increase the risk of dental disease.

Psychotropic medications can also adversely affect dental health. They can result in involuntary movements such as clenching of the jaw or grinding of teeth. They can precipitate dry mouth; decreased saliva production facilitates the growth of pathogenic bacteria and increases the risk of dental disease, which is then compounded by chewing gum or consuming sugary drinks to alleviate the dry mouth.

Dental disease in patients with mental illness has no easy solutions. But improving providers' awareness of dental health issues and educating patients is a start.

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We welcome contributions to this column via our online editorial office:
<https://mc.manuscriptcentral.com/bmj>.

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PRACTICE UPDATES

Menopause: diagnosis and management

NICE has published a quality standard on diagnosis and management of menopause. It advises that women >45 years old who present with menopausal symptoms should not be diagnosed with perimenopause or menopause based on their symptoms alone, without confirmatory laboratory tests, but that women <40 years presenting with menopausal symptoms should have their levels of follicle-stimulating hormone measured. Women treated for menopausal symptoms should have a review three months after starting each treatment and then at least annually.

► <http://bit.ly/2kaPY10>

Cerebral palsy

For those at increased risk of developing cerebral palsy, NICE now recommends providing an enhanced clinical and developmental follow-up programme by a multidisciplinary team for children up to 2 years old (corrected for gestational age). Those at increased risk include children born preterm; children of women who had infections in pregnancy including chorioamnionitis, respiratory tract infections, or genitourinary infection treated in hospital; babies born with a low birth weight or neonatal encephalopathy; and postnatal meningitis.

► <http://bit.ly/2kaW5Dm>

FAST FACT—PRACTICAL TIP: FLUID CHALLENGES

When prescribing fluids, remember the "five Rs":

- Resuscitation
- Routine maintenance
- Replacement
- Redistribution
- Reassessment

► For more information visit BMJ Learning (<http://bit.ly/2kaGkFV>)



0.5 HOURS

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Low intensity pulsed ultrasound (LIPUS) for bone healing: a clinical practice guideline

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Does low intensity pulsed ultrasound (LIPUS) accelerate recovery in adults and children who have experienced bone fractures or osteotomy (cutting of a bone)? An expert panel rapidly produced these recommendations based on a linked systematic review triggered by a large multi-centre randomised trial in adults with tibial fracture.

WHAT YOU NEED TO KNOW

- A new trial and linked systematic review provides moderate to high certainty evidence to support a strong recommendation against the use of LIPUS for bone healing
- LIPUS is used for bone healing for people who have had fractures or osteotomy
- LIPUS is costly to purchase
- Further research is unlikely to alter the evidence
- Healthcare administrators and funders may consider de-implementation of LIPUS as a performance indicator in quality improvement initiatives

Fracture is common. Bones can also be broken for medical reasons; osteotomy is a procedure whereby a bone is cut to shorten, lengthen, or to change its alignment. Following osteotomy, the bone has similar healing problems as traumatic fractures, and may require more extensive recovery.¹

Irrespective of age, location, and mechanism of the broken bone, whether it is managed with or without surgery, and whether it heals as expected or with delay, the idea of speeding or enhancing this healing to minimise symptoms and inconvenience for the patient is appealing. Bone stimulators such as LIPUS and electromagnetic field therapy might promote bone healing by stimulating bone growth (osteogenesis) in long or other bones.

Guidance from independent organisations on use of LIPUS for bone healing is scarce, but data suggest the device is commonly used in clinical practice. Prices vary across countries, each device costing between \$1300 and \$5000 (based on US and UK prices).

The TRUST randomised controlled trial published in *The BMJ* on 25 October 2016 found that the addition of LIPUS to standard care in 501 adult patients undergoing surgery for fresh tibial fracture did not improve functional recovery or accelerate radiographic healing at

Key facts

Bone fracture

- More than one in three people have a fracture at some point in their life
- Each year around four per 100 people of all ages experience a fracture²
- Some 5-10% of these experience delayed healing or non-union of the fracture³

LIPUS

- Guidance
 - 1994 US Food and Drug Administration (FDA) approved LIPUS for fracture healing and, in 2000, for treatment of established non-unions⁴
 - 2010 UK National Institute for Health and Care Excellence (NICE) issued a statement supporting the use of LIPUS to reduce fracture healing time and to provide clinical benefit, particularly with delayed healing and non-union⁵
- Data on use
 - A Canadian survey of 450 trauma surgeons in 2008 found that nearly half of respondents were using bone stimulators to manage tibial fractures. Of those, about half used electro-magnetic field therapy and the other half used LIPUS⁶
 - Global revenues for bone stimulators were about \$400m 2004.⁷ In 2007, sales from LIPUS were around \$250m in the US⁸
 - We found no data to describe whether use has changed over time



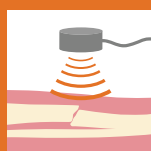
INFOGRAPHIC Rapid recommendation summary

Population



Adults and children with a fracture or osteotomy

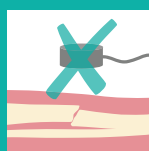
Choice of intervention



LIPUS

Low intensity pulsed ultrasound, used to stimulate bone growth (osteogenesis)

or



No ultrasound

Standard care without ultrasound

Recommendation

Favours LIPUS

Favours no ultrasound

Strong

Weak

Weak

Strong

We recommend against the use of LIPUS

Rationale

Comparison of benefits and harms

Favours LIPUS

No important difference

Favours no ultrasound

		Number of days (mean)		Evidence quality
Days to radiographic healing	147	No important difference	150	★★★★ Moderate
Days to return to work	205	No important difference	200	★★★★ Moderate
Days to full weight bearing	73	No important difference	70	★★★★ High
		Mean value		
Pain score (0–100, lower better)	39	No important difference	40	★★★★ High
		Events per 1000 people		
Subsequent operations	128	No important difference	160	★★★★ Moderate
Device related adverse effects	0	No important difference	0	★★★★ High

Key practical issues

LIPUS

Usually used for 15–20 minutes each day for 14 to 140 days

Device can be cumbersome to travel with

Health insurance may not cover cost

No ultrasound

No practical issues

Preferences and values

The panel unanimously agreed that all or nearly all informed patients would elect not to apply LIPUS

Resourcing

LIPUS is a costly device which does not represent a wise use of health resources

Other considerations

LIPUS may be burdensome to use. This is reflected in the TRUST trial, in which many patients reported limited compliance

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one year follow up compared with a sham device.⁹ The *BMJ* Rapid Recommendations team believed that the TRUST trial, if considered in a new systematic review and meta-analysis, could change practice. Previous systematic reviews had concluded that potential benefits of LIPUS on bone healing were highly uncertain, with calls for trials with safeguards against bias and a focus on outcomes important to patients.^{10 11}

HOW THE RECOMMENDATION WAS CREATED

Our international guideline panel included orthopaedic and musculoskeletal trauma surgeons, physiotherapists, general internists, methodologists, and people with lived experience of bone fractures including one who used LIPUS (see appendix 1 on bmj.com for list of panel members). No person had financial conflicts of interest; intellectual and professional conflicts were minimised and managed according to *BMJ* Rapid Recommendations standards (see appendices 2 and 3 on bmj.com).

We followed the *BMJ* Rapid Recommendations procedures for creating a trustworthy recommendation.^{12 13} We discussed and agreed on the clinical outcomes of most importance to patients and clinicians a priori, and the systematic review authors focused their reporting on these. The outcomes chosen for LIPUS were:

- Functional recovery (such as time to return to work and time to full weight bearing)
- Pain
- Subsequent operations
- Complications.

The patient representatives judged radiographic healing as a less important outcome. It was included because many clinicians would consider radiographic healing to inform their management decisions. Some patients may feel reassured by observing radiographic healing, with increased confidence in resuming activities such as weight bearing and return to work.

Before seeing the evidence, we agreed on what would constitute an important benefit from using LIPUS for these outcomes, and how patient values and preferences might vary between persons. Guided by patients on our panel, we agreed that most people want at least a possibly important benefit in functional recovery time or pain to make the time and expense of using LIPUS worthwhile. Reduced adherence with the device in the TRUST trial suggests that LIPUS can be burdensome to patients.⁹

We applied the GRADE system to critically appraise the evidence and move from evidence to recommendations (appendix 3).¹⁴ We considered the balance of benefits, harms, and burdens of the procedure; the quality of evidence for each outcome; the typical and expected variation in patient values and preferences; resources; feasibility; and acceptability—details of our reasoning are summarised in the infographic and discussed further in the text.¹⁵ Recommendations can be strong or weak, for or against a course of action. We place a low value on speculative benefits of treatments. Thus, when available evidence suggests no benefit, or only very low quality evidence suggests benefit and moderate or high quality evidence shows appreciable adverse effects, burden, or cost, the panel would make a strong recommendation against an intervention.

The evidence

Evidence requested from the panel to inform recommendations:

- A new rapid systematic review of the effects of LIPUS added to standard care for a variety of fractures and osteotomies¹⁶
- A systematic literature search on patients' values and preferences, which did not identify any relevant studies (see appendix 4 on bmj.com).

Systematic review of LIPUS for all fracture healing

The data from the TRUST trial⁹ by Busse et al were included in a linked systematic review of randomised trials of LIPUS compared with sham device or no device on patient-important outcomes in patients with a fracture or osteotomy. Figure 1 shows details about the trials and characteristics of included patients.¹⁶

We judged that the systematic review provides evidence of moderate to high certainty that LIPUS has little or no impact on time to return to work, time to full weight bearing, pain, the number of subsequent operations, or time to radiographic healing. We were confident that there was little risk of adverse events from the device, based on nine trials that reported this outcome.

For return to work, time to full weight bearing, and number of subsequent operations, our certainty in the evidence is moderate (rather than high) because of imprecise estimates of effect, where confidence intervals included potentially important benefit and harm.¹⁶ The observed heterogeneity in the effect sizes between trials for time to weight bearing, pain, and radiographic healing was explained by considering risk of bias: studies with serious methodological limitations due to lack of blinding (no use of sham device) suggested a benefit, whereas studies without such limitations did not.¹⁶ For these outcomes, we therefore based our conclusions on the trials with low risk of bias. The estimates for typical (prognostic) outcomes for patients not treated with LIPUS were informed by the control arm of the TRUST trial, which enrolled patients with tibia fractures in the US and Canada and was at low risk of bias.

Understanding the recommendation

We unanimously agreed to issue a strong recommendation against LIPUS for patients with any bone fractures or osteotomy. We have moderate to high certainty of a lack of benefit for outcomes important to patients, and, combined with the high costs of treatment, LIPUS represents an inefficient use of limited healthcare resources.

A particular challenge for the panel was to determine to what extent the most trustworthy evidence—coming from trials of patients with fresh tibial and clavicle fractures managed operatively—could be applied to adults with different types of fracture or osteotomies. Trials



Characteristics of patients and trials included in systematic review

DATA SOURCES

Use this information to gauge how similar your patients' conditions are to those of people studied in the trials

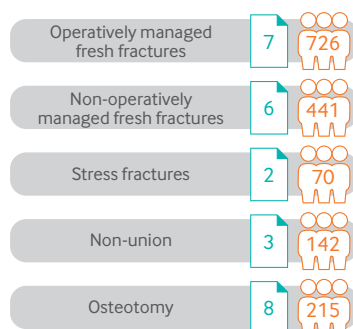
NUMBER OF TRIALS

26

NUMBER OF PATIENTS

1565

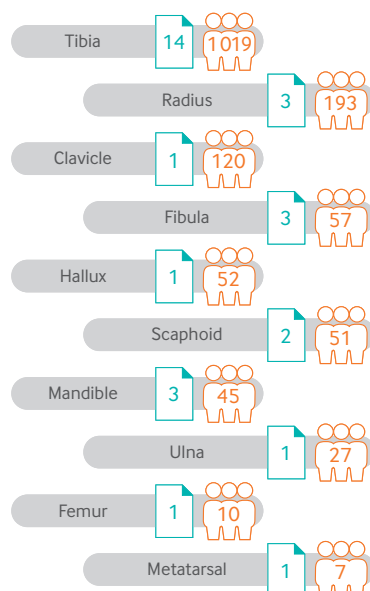
TYPES OF FRACTURE OR OSTEOTOMY



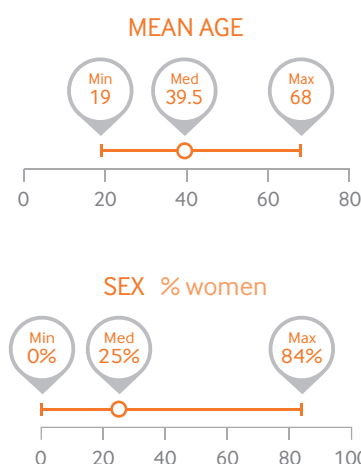
EXCLUSIONS

- Infections
- Multiple fractures
- Pathological fractures
- Large gap between bone ends after fixation

FRACTURE LOCATIONS



PATIENT CHARACTERISTICS



FUNDING

3 of 26 trials were explicitly free of industry funding



PATIENT PARTNERSHIP

No patient involvement reported in trial design

including patients with stress fractures, non-union, and osteotomies were either at high risk of bias or did not contribute sufficient outcome data to the systematic review. After extensive deliberations, the panel found no compelling anatomical or physiological reasons

HOW PATIENTS WERE INVOLVED IN THE CREATION OF THIS ARTICLE

Four people with lived experience of bone fractures, one of whom had used LIPUS, were full panel members, participated in the teleconferences and email discussions, and met all authorship criteria. These panel members identified important outcomes and led the discussions about values and preferences. Return to work or regular activities and pain were weighed as of higher importance for patients than radiographic healing. The panel identified key practical issues including concerns with cost and access to LIPUS, as well as the burden of therapy. In light of the lack of efficacy, one patient panel member remarked, and the others agreed, that discussing LIPUS would unnecessarily take valuable time from the patient-clinician encounter, which is often already too short.

why LIPUS would probably be beneficial in these other patient populations.

This *BMJ* Rapid Recommendations article is one of a series that provides clinicians with trustworthy recommendations for potentially practice changing evidence. *BMJ* Rapid Recommendations represent a collaborative effort between the MAGIC group (www.magicproject.org) and *The BMJ*. A summary is offered here and the full version including decision aids is on the MAGICapp (www.magicapp.org), for all devices in multilayered formats. Those reading and using these recommendations should consider individual patient circumstances and their values and preferences and may want to use consultation decision aids in MAGICapp to facilitate shared decision making with patients. We encourage adaptation of recommendations to allow contextualisation of recommendations and to reduce duplication of work. Those considering use or adaptation of content may go to MAGICapp to link or extract its content or contact *The BMJ* for permission to reuse content in this article. Series adviser Rafael Perera-Salazar.

Competing interests: All authors have completed the *BMJ* Rapid Recommendations interests form. The *BMJ* Rapid Recommendations team judged that no panel member declared financial, professional, or academic interests that precluded authorship. The declared interests for each panel member are in appendix 2 on bmj.com. No panel members declared any financial conflicts of interest related to this clinical question.

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Find the full version with references at <http://dx.doi.org/10.1136/bmj.j576>

RESEARCH, p 313

Perianal abscess

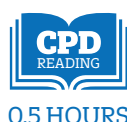
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0.5 HOURS

EDUCATION INTO PRACTICE

How quickly can you access specialist referral for patients with a perianal abscess?

The annual incidence of perianal abscess is estimated between 14 000 and 20 000 people in the UK, resulting in about 12 500 operations in the NHS each year.¹ A recent Swedish cohort study estimated the incidence at 16.1 per 100 000.² The true incidence may be higher, since many patients are treated with antibiotics in the community and some abscesses spontaneously regress or discharge.^{2,3} Patients usually present with an erythematous swelling near the anus and may be embarrassed or reluctant to seek treatment. They may present to a non-specialist in the first instance. This article provides information on the causes and different types of perianal abscess and an update on how they are best managed.

What are perianal abscesses?

An abscess is a localised collection of infected fluid. Although there are strict anatomical definitions for the different anorectal abscesses, initial management is the same in most cases and the term “perianal abscess” is generally used as a result (fig 1).

About 90% of idiopathic perianal abscesses occur because of infection of the cryptoglandular glands.^{4,5} Most occur posteriorly and in the intersphincteric space, where the anal glands are located.⁶ Abscesses are classified as superficial or deep in relation to the anal sphincter. If the infection bursts through the external sphincter, it will form an ischioanal abscess. If it spreads laterally on both sides it can form a collection of sepsis, which forms a ‘horseshoe’ around the sphincters. Superior extension (supralelevator abscess) beyond the puborectalis or the levators is rare and may represent iatrogenic injury (such as inadvertent injury from a fistula probe).

WHAT YOU NEED TO KNOW

- Perianal abscesses almost always require surgical drainage, even if they have spontaneously discharged
- Patients with diabetes, immunosuppression, evidence of systemic sepsis, or substantial local cellulitis require urgent drainage
- In uncomplicated cases, offer incision and drainage within 24 hours
- Drainage leads to an open cavity that typically takes 3-4 weeks to heal
- Persistent failure to heal may indicate an underlying fistula

HOW PATIENTS WERE INVOLVED IN THIS ARTICLE

A patient commented on both the planning of the article and the subsequent drafts, and the article was edited in line with these comments. Of particular concern was wound packing and the evidence for the benefits (or lack thereof) of packing the wound and dressing changes in the community.

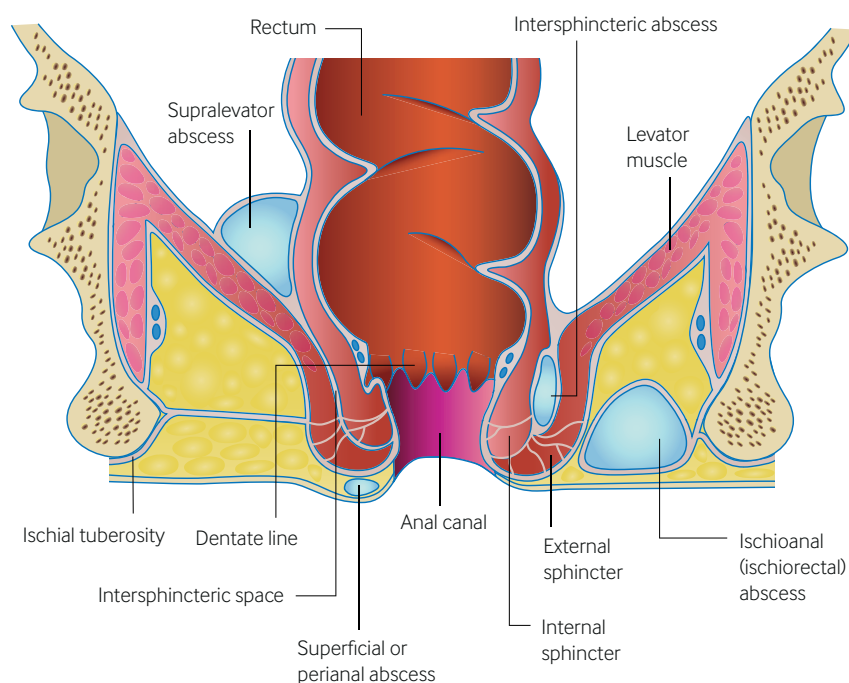


Fig 1 | Possible sites of anorectal (“perianal”) abscesses



Fig 2 | Typical clinical appearance of a superficial perianal abscess



Fig 3 | Packing of wound after incision and drainage of a perianal abscess



Fig 4 | Open wound after incision and drainage of a perianal abscess

Who gets perianal abscesses?

Perianal abscesses are twice as common in men as in women, with a mean age of 40 years in both sexes.^{7,8} Known risk factors associated with developing an abscess include inflammatory bowel disease, smoking, and HIV infection.⁹ The most common presentations of abscesses are perianal (up to 60%) and ischiorectal.^{6,10}

Rarer causes include abdominal or pelvic infections (such as from diverticulitis), direct penetration of the anal wall (by chicken or fish bones or by anal digitation), perforation from low rectal or anal cancers, penetrating ulcers,¹¹ tuberculosis,¹² and actinomycosis.¹³ There is no evidence that abscesses are related to personal hygiene or sedentary lifestyles.¹⁴

How do they present?

Superficial abscesses present acutely as tender, localised, erythematous swellings, and some may present with discharge (fig 2). Ischiorectal abscesses may take longer to become visible externally. They may present with vague pelvic or perianal pain and fever, and on examination the buttock may be red and indurated compared with the unaffected side. Digital rectal examination can be painful in the acute setting and can be postponed until examination under anaesthesia if appropriate.

Deep abscesses are often harder to diagnose. Patients may present with sepsis, even though there are no visible signs. Imaging may be required to confirm the diagnosis in these cases. A combination of systemic sepsis and a clinical history of recent pelvic infections, Crohn's disease, or

previous anorectal sepsis may point to an underlying deep abscess.

When examining a patient with anal symptoms look for signs suggestive of alternative pathology, including fissures or thrombosed haemorrhoids. Sexually transmitted infection can also present with anal lesions and pain, as can malignancy.

Abscess or fistula?

In about a third of patients, a fistula is found either at the time or subsequent to abscess drainage.¹⁰⁻¹⁶ Most fistulas arise on the background of a pre-existing abscess.¹⁷ They may also occur spontaneously and (less commonly) in the context of inflammatory bowel disease, tuberculosis, trauma, or as a complication of local surgical procedures (such as haemorrhoidectomy or episiotomy).

There is no definitive means of preventing or predicting fistula occurrence or formation after abscess drainage. It was initially thought that detection of enteric organisms in the perianal abscess was associated with an increased risk of subsequent fistula formation.¹⁸ However, a recent case series of 164 patients found no statistically significant association between the presence of gut-derived organisms and the development of a fistula (odds ratio 0.48 (95% confidence interval 0.17 to 1.37)) or recurrence of perianal abscess (odds ratio 1.66 (0.46 to 6.01)).¹⁹

Furthermore, a multicentre, double-blinded randomised trial showed that antibiotic treatment after abscess drainage offered no protection against subsequent fistula formation.²⁰

How are abscesses managed?

In the community

Offer early referral to a surgical team for discussion of incision and drainage, and avoid prescribing trials of antibiotics in the community. The Royal College of Surgeons' guidelines on emergency surgery recommend that abscesses are ideally drained within 24 hours.²¹ A double-blind randomised controlled trial and a prospective clinical trial found that the addition of antibiotics to drainage does not improve healing rates or reduce recurrence.^{22,23} Because of the risk of deep infection, sepsis, and necrotising soft tissue infection, patients who are immunosuppressed, have diabetes, or have evidence of systemic sepsis or cellulitis require urgent drainage on the day of presentation.

Incision and drainage

Manage those with evidence of sepsis according to the "sepsis six" guidelines,²⁴ and treat the abscess with drainage of the trapped perianal sepsis. If the abscess is clinically evident, imaging is rarely required. Incision and drainage can be performed under general anaesthesia or local anaesthesia depending on the complexity of the case and patient preference.

Local anaesthesia is generally less effective in the presence of inflammation but is preferred in superficial abscesses or in pregnancy. Incision and drainage are performed after infiltration of the area with 1% lidocaine. Ethylene chloride spray can be used to numb the area immediately before infiltration.

Pros and cons of the different approaches to postoperative management after drainage of a perianal abscess			
Approach	Pros	Cons	Evidence
Packing (fig 3)	Prevents premature closure	Costs, inconvenience, pain	Observational study
Digitation	No cost	Painful initially, patient preference	Abstract only
Open wound (fig 4)	No cost	Potential risk of premature closure	Pilot RCTs ^{27 28}

RCT = randomised controlled trial.

QUESTIONS FOR FUTURE RESEARCH

- What is the true incidence of perianal abscesses and how many abscesses recur?
- What are the risk factors for fistula formation after an abscess, and how can we predict risk?
- Should we look for and treat fistulous tracts at the time of incision and drainage of abscesses?
- Does packing after drainage improve healing rates and quality of life, and is it cost effective?
- How many abscesses are a primary presentation of Crohn's disease?

If general anaesthesia is chosen, this allows for a detailed examination under anaesthesia, which includes an assessment of the anorectum with a rigid sigmoidoscope and exploration of the abscess cavity. Examination findings that may suggest an underlying cause for the abscess such as Crohn's disease include proctitis, strictures, ulcers, fissures or complex or recurrent abscess drainage, and fistulas. Measurement of faecal calprotectin may be useful, as elevated calprotectin suggests inflammation within the intestine and may aid with diagnosis of Crohn's disease. Thus, if the above examination features are evident the patient should be offered a faecal calprotectin assay and referral to a gastroenterologist for endoscopic evaluation. Most abscesses are drained externally, but occasionally deep internal abscesses are drained into the anal canal.

In cases of severe pain without objective evidence of an abscess (and in the absence of another cause such as an anal fissure or a thrombosed haemorrhoid) at examination under anaesthesia, consider magnetic resonance imaging. Endoanal ultrasound is used in some centres to assess for perianal fistula, but its role is limited by pain in the acute setting.

A retrospective consecutive series of 500 patients with perianal abscesses found a re-operation rate of 7.6% (within 10 days of the operation) and concluded that the commonest reasons for these were incomplete drainage, premature skin closure, and missed loculations (rare in perianal abscesses).²⁵

In spite of evidence suggesting that treating an associated fistula in the acute setting reduces subsequent recurrence,²⁶ there is insufficient consensus to support surgeons undertaking immediate fistula treatment at incision and drainage of perianal abscesses, particularly if they are less experienced.

Postoperative management

After incision and drainage, the aim of treatment is to allow the cavity to heal by secondary intention. The options for managing the cavity are packing the wound (fig 3) or leaving the cavity open (fig 4), with or without digitation (where the patient rubs the base of the wound) (table). A systematic review of two randomised control trials found no evidence to support packing or non-packing, with respect to healing or quality of life.²⁹ A recent multicentre observational study of 141 patients from the UK found that packing was costly and dressing changes were associated with a twofold to threefold increase in pain scores.³⁰ Whichever approach is used, monitor the wound for worsening symptoms, persistent or spreading cellulitis, malaise or pyrexia, and inflammatory markers and discuss with the surgical team in the presence of any of these symptoms.

Follow-up

Patients with their first perianal abscess in the absence of underlying disease can be discharged after drainage with advice to present to clinic if their abscess fails to heal, which refers to ongoing discharge, suggesting the presence of a fistula. Routine incision and drainage of uncomplicated anorectal abscesses do not require postoperative antibiotics—a randomised, controlled, multicentre trial showed no significant shortening of the healing time or any reduction in recurrence rate with antibiotics.³¹ However, antibiotics may be of benefit in patients with systemic symptoms, extensive cellulitis, or underlying immunosuppression.³²

Offer patients with recurrent abscesses a review appointment with a surgeon for further investigation and treatment of any underlying fistula. If there is evidence of

ADDITIONAL EDUCATIONAL RESOURCES

Resources for clinicians

- American Society of Colon and Rectal Surgeons. Abscess and fistula information. <https://www.fascrs.org/patients/disease-condition/abscess-and-fistula-expanded-information>
- Medscape. Anorectal abscess. <http://emedicine.medscape.com/article/191975-overview>

Resources for patients

- Patient. Anorectal abscess. <http://patient.info/doctor/anorectal-abscess>

Perianal abscesses are twice as common in men as in women, with a mean age of 40 years in both sexes

underlying conditions (such as Crohn's disease and hidradenitis suppurativa) refer to an appropriate specialist for treatment.

Special circumstances: Crohn's disease

Perianal abscesses are a potential complication in Crohn's disease. Chronic immunosuppression, loose stools, and poor wound healing in this population make perianal sepsis treatment challenging. A retrospective study of 7218 patients with a perianal abscess or fistula found the complication rate was 24% in patients with underlying Crohn's disease compared with 4.8% for idiopathic cases, and patients with Crohn's disease had longer operating times and hospital stays.³³

Evaluate and treat patients presenting with Crohn's abscesses promptly to minimise the risk of sepsis related complications, which can be exacerbated in patients receiving immunosuppressive treatment.³⁴ Crohn's abscesses are more often associated with fistulas. Antibiotic therapy is used in cases of systemic sepsis and has been used in combination with the patient's normal immunomodulators.^{35 36}

Patients with underlying Crohn's disease are best managed under the joint care of colorectal surgeons and gastroenterologists. As with idiopathic cases, patients with perianal abscess should have an examination under anaesthesia, and when possible this should be performed by a surgeon experienced in proctology, as the abscesses are often associated with fistulas.

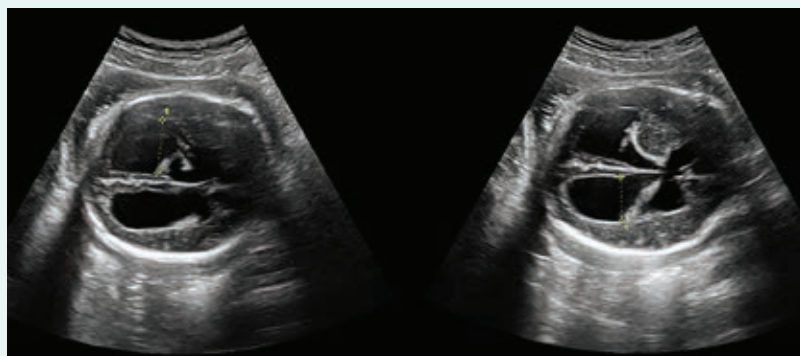
Competing interests: None declared.

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Find the full version with references at <http://dx.doi.org/10.1136/bmj.j475>



SPOT DIAGNOSIS Abnormality in a fetus on ultrasound



A pregnant 18 year old woman had an antenatal examination at 30 weeks' gestation. She was healthy and had no history of smoking, drug abuse, or positive family history of chromosomal disease or encephalodysplasia. She had experienced mild flu-like symptoms during the first month of pregnancy but had not taken any medication, and the symptoms had disappeared after three days. During the antenatal appointment she had an ultrasound scan (left). What does the ultrasound image show?

Submitted by Yong-Hai Zhou and Ming-Hua Zheng

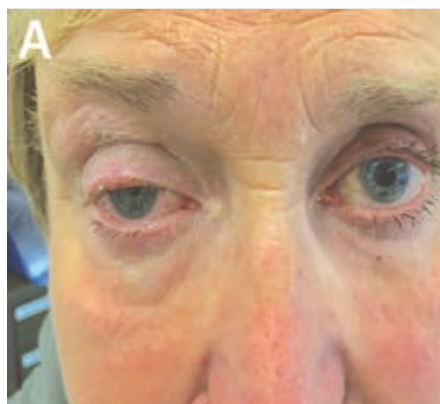
Patient consent obtained.

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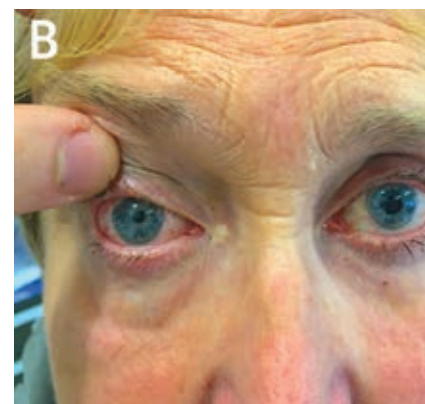
CASE REVIEW

Unequal pupils and ptosis

A 69 year old woman was referred by her primary care doctor to the eye emergency department with a dilated left pupil and ptosis of her right upper lid. She had visited her doctor because of an upper respiratory tract infection and was unconcerned about her unequal pupil size (anisocoria), stating that she "has had odd pupils and a droopy right lid since being a teenager." She had no ocular or medical history and was not taking any oral or topical medication. She denied any history of trauma, neck pain, weight loss, diplopia, or anhydrosis. On examination she had a partial right upper lid ptosis (figure, A) and her right pupil, which was the abnormal one, was constricted (figure, B) and showed a dilatation lag. Both pupils constricted to light and accommodation and there was no relative afferent pupillary defect. Iris colour was equal on both sides. Visual acuity



was 6/9 in both eyes and intraocular pressures were 12 mm Hg and 14 mm Hg in the right and left, respectively. Ocular motility was full and funduscopy showed healthy optic discs. She had no other neurological signs. One drop of apraclonidine 1% was applied to both eyes. After one hour there was dilation of the constricted pupil and improvement in the ptosis.



- 1 What is the diagnosis and what are the differential diagnoses?
- 2 What is the aetiology of this condition?
- 3 What further investigations are necessary?

Submitted by Andrew Malem

Patient consent obtained.

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SPOT DIAGNOSIS Abnormality in a fetus on ultrasound

- 2 Pathology along the oculosympathetic pathway, which could be central (in the brainstem/spinal cord), preganglionic (in the lung apex/brachial plexus/neck), or postganglionic (in the upper neck/middle ear/cavernous sinus/orbit). The most important, life threatening cause is a carotid artery dissection.
- 3 Computed tomography angiography or magnetic resonance angiography of the brain/cervical and upper thoracic spine—same day for acute painful cases; within six weeks for subacute cases.

CASE REVIEW Unequal pupils and ptosis

- 1 Right Horner's syndrome. The differential diagnoses for a unilateral constricted pupil include pharmacological anisocoria, local iris pathology, and physiological anisocoria. Ptosis, which must be differentiated from pseudoptosis, can be classified as involutional, neurogenic, myogenic, or mechanical.

Excessive dynamic airway collapse

A 95 year old asthmatic woman complaining of severe dyspnoea presented with a supine expiratory wheeze, which on examination was refractory to bronchodilators and steroids, leading to suspicion of air trapping. Expiratory phase computed tomography showed almost complete collapse of the trachea with intact anterolateral cartilaginous structure (figure, arrow), morphologically excluding tracheobronchomalacia and indicating excessive dynamic airway collapse. This is defined as >50% reduction in sagittal tracheal diameter caused by

excessive invagination of the posterior membrane into the lumen during exhalation. Excessive dynamic airway collapse is a differential diagnosis of refractory asthma, and treatment options for functionally affected patients include non-invasive positive pressure ventilation and an airway stent.

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Patient consent obtained.

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Stroke severity greatest in women with atrial fibrillation

Ischaemic strokes caused by atrial fibrillation tend to be more severe than other types of ischaemic stroke, as confirmed by a cross-sectional study of more than



60 000 patients on the Austrian stroke registry between 2003 and 2016 (*Stroke* doi:10.1161/STROKEAHA.116.015900). What also emerged from this analysis was that women with atrial fibrillation have more severe strokes than men with the same condition. This sex difference was not found in people without atrial fibrillation, and was independent of age, previous functional status, vascular risk factors, and vascular comorbidities.

Not acting on patient feedback

A new qualitative study seeks to understand why UK hospital staff find it difficult to make improvements based on patient feedback (*Soc Sci Med* doi:10.1016/j.socscimed.2017.02.005). The study contains a lot of good sense and plain English, though some might find it difficult to follow the more theoretical passages about normative legitimacy, structural legitimacy, and meso- and macro-organisational resolve. Really it is all about people and organisations being interested in actually listening to and empowering patients rather than ticking the right boxes.

Sewn back arms work well

A much smaller Austrian cohort study looked at the outcomes of 16 patients in three institutions who underwent replantation between 1983 and 2011 following traumatic amputation of an upper extremity (*BMC Musculoskelet Disord* doi:10.1186/s12891-017-1442-3). All had undergone operation within four hours of the injury: the region of amputation was the upper arm in eight cases, the forearm in five cases, and the wrist in three. Fourteen of the patients had good or very good functional recovery at a mean follow-up of 13.5 years. All 16 said they would undergo replantation again, regardless of their functional result.

Schwartz Center Rounds

As two great nations divided by a common language, the UK and the USA often show reluctance to learn from each other. The name "Schwartz Center Rounds" shouts out its American origin, but nevertheless the rounds have slowly achieved success in the UK. They are a way of bringing health professionals together to discuss the personal challenges of delivering compassionate care in difficult situations (*BMJ Open* doi:10.1136/bmjopen-2016-014326). This British success would please the centre's benefactor, the late Kenneth Schwartz (1954-1995), an American attorney who, during his treatment for inoperable lung cancer, observed how important the connection was between care givers and patients.

One size fits all for measuring blood pressure

You might need different sized sphygmomanometer cuffs for different sized arms, but when measuring blood pressure in different ethnic groups, you don't need to employ different standards. A study

compared mean daytime ambulatory measurements of blood pressure with clinic and home measurements in 246 white British, 147 South Asian, and 158 African Caribbean participants (*BMC Cardiovasc Disord* doi:10.1186/s12872-017-0491-8). All groups showed the same pattern of differences.

Progression of unilateral age related macular degeneration

The Blue Mountains Eye Study, Beaver Dam Eye Study, and Rotterdam Study all provide longitudinal data about people with unilateral age related macular degeneration. Looking at these cohorts, investigators found that the overall rate of progression from unilateral to bilateral age related macular degeneration over five years was 19%–28%. But it was 27%–68% in people with late age related macular degeneration in one eye, and it happened more often and faster in smokers (*Br J Ophthalmol* doi:10.1136/bjophthalmol-2016-309729).

Shut up about stair climbing

In a small town in western Norway, infrared bidirectional people counters were placed in the ground floor stair flight and elevator entrance of two office buildings (*Arch Public Health* doi:10.1186/s13690-016-0170-8). Their purpose was to measure activity during periods when the use of stairs was encouraged by means of pink foot markers and smiley face notices saying "Thanks for taking the stairs. Have a nice day." Minerva's respect for Norwegians is all the greater for reading that stair climbing was substantially reduced during the intervention periods.

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