Coffee: wake up and smell the confounding

Two large observational studies suggest that coffee drinking is associated with longevity. You drink coffee, and would like to believe good things about coffee. So your first instinct, as you sip the aromatic liquid and feel the caffeine buzz, is to rejoice. But you are a scientist: look closer. The first study is of the EPIC cohort, where E stands for European. Over half a million Europeans recorded their coffee consumption on one occasion. Those who claimed to drink the most had a slightly higher rate of survival (16.4 years) than those who said they did not drink coffee. There was a markedly lower rate of death from gastrointestinal causes. Epidemiologically, it’s quite intriguing, but I defy anyone to conduct a randomised trial for a sufficient length of time. So at best we can say that coffee drinking is unlikely to be harmful. The same message emerges from a study of 185 855 Americans of mixed ethnicity, after adjustment for confounders. The coffee drinkers were a bit less likely to die over a period of 16 years, compared with those who did not drink coffee. There was a marked lower rate of death from gastrointestinal causes. Epidemiologically, it’s quite intriguing, but I defy anyone to conduct a randomised trial for a sufficient length of time. So at best we can say that coffee drinking is unlikely to be harmful. The same message emerges from a study of 185 855 Americans of mixed ethnicity, after adjustment for confounders. The coffee drinkers were a bit less likely to die over a period of 16 years, compared with those who did not drink coffee. There was a markedly lower rate of death from gastrointestinal causes. Epidemiologically, it’s quite intriguing, but I defy anyone to conduct a randomised trial for a sufficient length of time. So at best we can say that coffee drinking is unlikely to be harmful. The same message emerges from a study of 185 855 Americans of mixed ethnicity, after adjustment for confounders. 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Management of patients after primary percutaneous coronary intervention for myocardial infarction

Fatima Dalal, Hasnain M Dalal, Christos Voukalis, Manish M Gandhi

For those who present with an acute ST elevation myocardial infarction (STEMI) in the UK, nearly 90% are treated with a primary angioplasty within 90 minutes of arrival at hospital. One out of every seven deaths is due to coronary heart disease, with one person having a “heart attack” every 40 seconds, based on US data. In the UK, 288 per 100 000 people visit hospital with a suspected heart attack each year.

Patients are usually discharged three days after treatment for a STEMI with an uncomplicated primary percutaneous coronary intervention (PCI). They may present in the community for further advice shortly after discharge, so close collaboration between the cardiologist and the wider healthcare team is essential. This article provides an update on the immediate and longer term management of such patients (see fig 1).

WHAT YOU NEED TO KNOW

- Hospital discharge within three days after uncomplicated primary percutaneous coronary intervention (PCI) for ST elevation myocardial infarction is considered safe
- Advise patients to report any persistent discolouration, pain, or swelling over the arterial access site, and any new or recurrent chest pain, shortness of breath, palpitation, or ankle swelling
- Dual antiplatelet therapy is essential after primary PCI to prevent recurrent ischaemia and stent thrombosis, but can be associated with an increased bleeding risk
- After myocardial infarction, international guidelines recommend cardioprotective drugs and referral to a cardiac rehabilitation programme that promotes smoking cessation, physical activity, a healthy Mediterranean-style diet, and psychological support
- Annual review of symptoms, adherence to secondary prevention therapy, lifestyle change, and cardiovascular risk factors reduce recurrent cardiovascular events and improve survival

The first consultation after myocardial infarction

The diagnosis

Check the hospital discharge notification to confirm if the final diagnosis was a STEMI, which artery was treated, and the type and number of stents implanted. Explain that PCI involved reopening a blocked or narrowed artery (fig 2).

What to watch out for after PCI

Patients are not routinely advised to see their GP at a specific interval after PCI, but a follow-up consultation within four weeks of discharge can be helpful to detect uncommon but important complications.

Complications related to access site—These are rare but can include infection or swelling. Examine the access site area, usually over the right radial artery, but sometimes the right femoral or left radial artery.

Cardiovascular complications—Always perform a cardiovascular examination to detect signs of atrial fibrillation, a pericardial rub, or a cardiac murmur. Signs of heart failure should prompt a review of titrating the dose of the angiotensin converting enzyme (ACE) inhibitor to the maximum tolerated, with a view to specialist referral to consider further drug or device therapy. Table 1 highlights red flag symptoms that need urgent attention.

SOURCES AND SELECTION CRITERIA

We searched PubMed, Cochrane Library, Medline, and Google using the terms “secondary prevention after a myocardial infarction,” “secondary prevention after a heart attack,” “ST elevation myocardial infarction,” and “management after percutaneous coronary intervention.” Specific searches were used to highlight certain aspects of management after primary percutaneous coronary intervention such as dual antiplatelet therapy.

Other major sources of information were guidelines published by the European Society of Cardiology, American Heart Association, and National Institute for Health and Care Excellence; randomised trials, meta-analyses, and observational studies reported in major peer reviewed medical and clinical cardiovascular journals; and personal and patient experiences.
Which drugs are used for secondary prevention?

Five classes of drug are recommended when patients are discharged after successful revascularisation for uncomplicated STEMI: dual antiplatelet therapy, a β blocker, an ACE inhibitor, and a statin. Each is independently associated with improved survival, based on large randomised trials and meta-analyses summarised in national and international guidelines.

Table 2 summarises the recommendations from international guidelines on the use of secondary prevention drugs.

Adapting prescribing patterns of antithrombotic therapy

Emerging evidence has led to variations in the duration of dual antiplatelet therapy prescribed following a PCI, and scoring tools are being developed to aid decision making.

In a patient with atrial fibrillation or a mechanical valve prosthesis after STEMI, “triple therapy” is sometimes required, and is usually initiated by the cardiologist before discharge. This involves dual antiplatelet therapy plus (a) anticoagulation with warfarin for mechanical valve prosthesis or (b) warfarin or a direct oral anticoagulant (such as apixaban, rivaroxaban, or dabigatran) for preventing stroke in patients with atrial fibrillation. When these two antithrombotic indications coexist—that is, PCI and stroke prophylaxis—dual or triple therapy is prescribed for three, six, or 12 months depending on the individual.
One year after PCI, this is usually replaced by monotherapy with anticoagulation alone. A reduction in the risk of recurrent coronary events is balanced against an increase in the risk of bleeding. It is important not to discontinue antithrombotic therapy, so check with the hospital cardiologist if the patient’s treatment plan is not clear.

**Prescribing in elderly patients**—About 40% of patients who have had a myocardial infarction are older than 75 years. Multiple comorbidity and polypharmacy are common in elderly patients, with higher risks of adverse events such as bleeding. Careful monitoring and using lower doses of hypotensive medication may help avoid further morbidity. Global and national registry data suggest that aspirin and β blockers are prescribed less in the elderly, and there is a call for trials targeted to this population to establish the effectiveness of intensive secondary prevention.

**What questions and concerns might patients have?**

Patients may ask about aspects of their recovery and ongoing management. The following might help patients to make informed choices.

**Driving**

Variations in rules on driving exist. In the UK, patients can resume driving a car a week after a successful PCI, as long as no further revascularisation is planned within four weeks of the acute event and the left ventricular ejection fraction is >40%. Bus, coach, and lorry drivers are required to notify the Driver Vehicle Licensing Agency and are usually permitted to drive if left ventricular ejection fraction is >40% and they have a successful exercise function test at six weeks. In the US, there is interstate variation in driving regulations, so patients should check with their state’s motor vehicle department.

**Flying**

Low risk patients who are asymptomatic can fly within a week after an uncomplicated primary PCI. Patients at high risk (with left ventricular ejection fraction <40% or awaiting further investigations, revascularisation, or device therapy) should seek specialist advice before flying. Advise all patients to inform their travel insurance company.

**Sexual activity**

A prospective observational study reported that counselling for resumption of sexual activity after a myocardial infarction has not been provided adequately by physicians and is often unnecessarily restrictive. Most patients who are asymptomatic with mild to moderate physical activity—walking two flights of stairs or walking briskly for a few minutes—should be able to resume sexual activity around a week after an uncomplicated myocardial infarction. Information about sexual activity is usually included in cardiac rehabilitation programmes.
Erectile dysfunction affects around 62% of men after myocardial infarction. A recent longitudinal study found no association between the use of β blockers and erectile dysfunction. It is safe to prescribe phosphodiesterase type 5 inhibitors (such as sildenafil, vardenafil, and tadalafil) in patients with erectile dysfunction who have stable disease after myocardial infarction. A US guideline recommends that nitrate medications should be avoided within 24 hours of taking sildenafil or vardenafil and within 48 hours of taking tadalafil based on a small randomised trial.

In women topical oestrogens for vaginal dryness and dyspareunia are unlikely to increase cardiac risk.

**Lifestyle advice**

After discharge from hospital, most patients do not achieve guideline standards for secondary prevention, with unhealthy diets, physical inactivity, and poor control of cardiovascular risk factors. Encouraging an informed choice for changing to a healthier lifestyle can be crucial (table 3).

**Smoking**

Smoking cessation after myocardial infarction is associated with a 36% reduction in all-cause mortality, and the risk of recurrent coronary events decreases to that of a non-smoker three years after smoking cessation.

**Cardioprotective diet and weight management**

A meta-analysis of 18 prospective studies assessing the association between adherence to a Mediterranean diet and outcomes reported an 8% reduction in overall mortality and 10% decrease in cardiovascular events or death. A Mediterranean diet is now recommended by international guidelines (box 1; see bmj.com). The aim is to achieve a body mass index of 20-25 kg/m² in those <60 years old and a higher target of <30 kg/m² in elderly patients.

**Physical activity and cardiac rehabilitation**

A Cochrane review of 63 randomised trials of exercise based cardiac rehabilitation, which included 31 trials in patients after myocardial infarction, reported an absolute reduction in the risk of cardiovascular mortality from 10.4% to 7.6%. Most studies also showed improvements in quality of life and a reduction in acute hospital admissions.

International guidelines recommend a minimum of 2.5 hours a week of moderate aerobic activity such as walking, treadmill, cycling, rowing, and stair climbing in multiple bouts each lasting ≥10 minutes (with an aim of 30 minutes a day on 5-7 days of each week) and resistance training two days a week for patients with stable coronary artery disease.

**Psychological impact**

Assess patients’ psychological wellbeing, as depression and anxiety (recorded with the Hospital Anxiety Depression Scale) can affect 20% and 28% of patients, respectively, at the point they enter a cardiac rehabilitation programme. An observational multicentre study reported higher mortality at one year in patients with untreated depression after myocardial infarction than in those without depression. Psychological interventions alleviate symptoms, and studies are under way to assess the role of enhanced psychological therapy within rehabilitation. Therapeutic options include stress management, management of depression, and referral to a clinical psychologist.

**Managing residual disease identified at angiography**

During primary PCI of the occluded artery, incidental disease may be identified in other “non-culprit” vessels; no clear consensus exists regarding the optimal timing of further PCI. A “50% stenosis” reported on a discharge summary, indicating moderate disease, may cause the patient considerable anxiety. Take the opportunity to have a general discussion with the patient about possible future treatment.

Mild to moderate coronary disease is usually treated with antianginal drugs and secondary prevention therapy. Significant coronary stenosis >70% in one of the major epicardial coronary arteries may be treated after recovery from the acute event. In some patients with severe multivessel coronary disease, particularly that involves the left main stem or is associated with diabetes, it may be appropriate to consider revascularisation with coronary artery bypass surgery. When the optimal treatment is uncertain, reassure the patient that the angiographic findings are discussed in hospital at a regular multidisciplinary “heart team” meeting by cardiologists and cardiac surgeons, with a consensus opinion communicated to the patient.

**Long term follow-up**

Most patients do not require follow-up with a specialist after an uncomplicated STEMI. Ensure enrolment for cardiac rehabilitation and review adequate up-titration of drug doses, assess for dyspeptic symptoms resulting from dual antiplatelet therapy, and check renal function. Cardiology follow-up is arranged when, for example, a STEMI may not be associated with an occluded artery and may be mimicked by a takotsubo (stress) cardiomyopathy, spontaneous coronary artery dissection, recanalised occlusion, or myocarditis.

In the community, annual review allows the primary care physician or nurse to assess cardiovascular symptoms and psychological wellbeing and to discuss maintaining lifestyle change, smoking cessation, blood pressure control, and adherence with statins to reduce cardiovascular risk. Provide patients with sources of information about heart attacks (box 2; see bmj.com, and table 1).
Diagnosis and management of inflammatory bowel disease in children

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This article summarises the State of the Art Review published on bmj.com
http://www.bmj.com/content/357/bmj.j2083

Series explanation: State of the Art Reviews are written with academic or specialist international readers in mind. This summary for non-specialists was created by BMJ with input from the author and appears as a summary for non-specialists.

Inflammatory bowel diseases (IBD) including Crohn’s disease and ulcerative colitis are lifelong conditions that present before the age of 20 years in 20–30% of cases. IBD that starts in childhood is associated with more extensive disease, higher disease activity, and a more complicated course than adult onset IBD. The effects of IBD in children are particularly important because of the potential negative effects on growth, development, psychosocial function, and overall wellbeing.

Rates of IBD in children are increasing worldwide, but accurate estimates are lacking. The incidence is about 12.8 per 100,000 in Sweden, 11.8 per 100,000 in Ontario, and 5.2 per 100,000 in the UK.

WHAT YOU NEED TO KNOW
• IBD is an immune mediated disease linked to genetic and environmental factors and the microbiome have a role (see figure below). A systematic review of observational studies supports the idea that immune mediated diseases such as IBD are associated with sanitary conditions—the hygiene hypothesis.18

What is the pathophysiology of IBD?
IBD is an immune mediated disease in which genetic and environmental factors and the microbiome have a role (see figure below). A systematic review of observational studies supports the idea that immune mediated diseases such as IBD are associated with sanitary conditions—the hygiene hypothesis.18

What is the overall management strategy?
There are two broad approaches to managing IBD, usually described as either “step up” or “top down.” The step-up approach uses drugs such as aminosalicylates, antibiotics, or enteral therapy and escalates to immunomodulators, biological drugs, or surgical intervention if the disease worsens. The top-down approach involves starting with drugs such as biologics on the basis of disease severity, with the hope that the therapy can be downgraded to “less aggressive” drugs. In reality, patients do not always fit into either approach and treatment is tailored according to factors including the disease severity, course, and complications.

WHAT YOU NEED TO KNOW
• IBD is an immune mediated disease linked to genetic and environmental factors and the microbiome
• IBD diagnosed in childhood is associated with worse outcomes than in adults
• Tailor treatments to achieve induction and maintenance according to the severity and course of disease, as well as individual patient factors
• Surgery can be curative in ulcerative colitis but is reserved for children with refractory disease

EDUCATION INTO PRACTICE
• How might you discuss the overall approach to managing IBD with a child or his/her parent/guardian?
• What one thing would you do differently as a result of reading this article?

Pathophysiology of inflammatory bowel disease

How patients were involved in the creation of this article
The BMJ did not request patient input on this article when it was commissioned.
## Dosing for common drugs in paediatric inflammatory bowel disease

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Side effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prednisone (oral) or methylprednisolone (intravenous)</td>
<td>1-2 mg/kg daily, maximum 40-60 mg/day</td>
<td>Growth suppression, adrenal suppression, immunosuppression</td>
</tr>
<tr>
<td>Budesonide</td>
<td>9 mg orally daily</td>
<td>Same as above but lower</td>
</tr>
<tr>
<td>5-aminosalicylate</td>
<td>50-80 mg/kg/day orally up to 4 g daily</td>
<td>May mimic acute exacerbation, intestinal nephritis</td>
</tr>
<tr>
<td>Azathioprine</td>
<td>2-3 mg/kg/day orally</td>
<td>Immunosuppression, myelosuppression, pancreatitis, lymphoma</td>
</tr>
<tr>
<td>6-mercaptopurine</td>
<td>1-1.5 mg/kg/day orally</td>
<td>Immunosuppression, myelosuppression, pancreatitis, lymphoma</td>
</tr>
<tr>
<td>Methotrexate</td>
<td>15 mg/m²/day to maximum 25 mg/day</td>
<td>Nausea, hepatic fibrosis</td>
</tr>
<tr>
<td>Infliximab</td>
<td>5 mg/kg intravenously at 0, 2, and 6 weeks; then every 8 weeks; dose can be increased to 10 mg/kg and interval be shortened to every 4-6 weeks</td>
<td>Immunosuppression, psoriasis, lymphoma</td>
</tr>
<tr>
<td>Adalimumab</td>
<td>Induction: 2.4 mg/kg (maximum 160 mg) at baseline, 1.2 mg/kg (maximum 80 mg) at week 2; maintenance: 0.6 mg/kg every other week</td>
<td>Nausea, headache, injection site reactions</td>
</tr>
</tbody>
</table>

### What treatments are used for induction of remission and maintenance?

The decision about which treatment should be used for induction and which for maintenance therapy depends on the individual patient and the clinical scenario. The international STRIDE (Selecting Therapeutic Targets in IBD) initiative proposed the “treat to target approach.”

A steering committee of 28 IBD specialists developed 12 recommendations based on a systematic literature review and expert opinion, including goals such as mucosal healing and improvement of quality of life. In children, restoration of appropriate growth and pubertal development are also important goals.

The table above summarises commonly used drugs and their adverse effects. Therapies used to induce remission include exclusive enteral nutrition (in Crohn’s disease), corticosteroids, antibiotics (in Crohn’s disease with perianal fistula), 5-aminosalicylates, and anti-tumour necrosis factor-α (TNF-α) drugs. Maintenance drugs include immunomodulators such as thiopurines and methotrexate, 5-aminosalicylates, and anti-TNF-α drugs. Drugs can be used alone or in combination to achieve the best response.

### What is the role of surgery?

In ulcerative colitis, colectomy is curative and is reserved for children with disease refractory to aggressive medical treatment. Between 8% and 26% of children with ulcerative colitis will need a colectomy in the first five years after diagnosis.

In Crohn’s disease, resection surgery can be an option to induce remission of localised disease but is not curative. It is effectively a “surgically induced remission” and should be followed by start or optimisation of maintenance therapy.

### Competing interests
None declared.

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## BMJ OPINION

### When is a disease not a disease?

Most GPs will recognise the dispiriting conversation that can happen when a patient discovers that he or she has stage 3 chronic kidney disease (CKD). “A disease? Where did I catch it from? Will the grandkids get it? What is the treatment?”

We doctors know that CKD is not that kind of disease. A patient’s estimated glomerular filtration rate (eGFR) has slipped a few points below an arbitrary threshold that can change when an “expert group” of some kind moves the goalposts. Those who had normal blood sugars or cholesterol a few years ago are now seen as “abnormal.” Almost all these changes move in the direction of making so called “diagnoses” at ever reducing thresholds.

And then there is “risk.” There is an implicit view that a given chorionic villus sampling (CVS) risk, for example, is like a disease state . . . something objective, separate from the patient’s own experience (“illness”), and that treatment results in “lives saved” from heart disease or a stroke.

The key point is that CVS risk thresholds are not diseases to be “treated” with statins. Those “at risk” are, by definition, disease-free. Instead of being offered “treatment,” perhaps we should invite patients to enter the “statin lottery.” A few stand to get a big gain from a prevented heart attack or stroke that could shorten life and certainly affect its quality. However, it really is a lottery. The National Prescribing Centre decision aid indicates that, at 10% risk, as few as three out of 100 patients who take statins for 10 years will get this benefit.

But let us be honest with patients about what we are asking; we would like them all to join in (and suffer any side effects, inconvenience, or cost) so that a very few can benefit. We simply do not know whether they themselves will benefit. Looked at like this, patients may make a different decision to epidemiologists.

So when is a disease not a disease? When it is just a “risk factor.”

Avril Danczak, GP in Manchester, primary care medical educator on the Central and South Manchester Specialty Training Programme for General Practice

Learning together

After a diagnosis of multiple sclerosis, Danny van Leeuwen describes his relationship with his neurologist

For more than 25 years I experienced episodes of weakness, shortness of breath, and dizziness. My primary care doctors ordered a full cardiac investigation each time I went to see him or her because my father had died from a heart attack when he was 45. My tests were always negative. Then I developed trouble with my vision, and the weakness got worse and did not resolve. My balance was bad—I kept falling off my bicycle. I saw various specialists and had a magnetic resonance image scan. A diagnosis of multiple sclerosis was made. The neurologist I then saw said that I had had remitting relapsing sclerosis was made. The neurologist I then

WHAT YOU NEED TO KNOW

- Get to know your patient, help her or him to figure out personal goals, and use these to develop a shared care plan
- Be appreciative of the patient’s capabilities and knowledge of what works for her or him
- Patients value being able to communicate easily online with members of their clinical team and getting continuity of care from them

“Let’s travel on this journey together”

The neurologist surprised me. He said, “I’m an expert in medical treatment for populations with multiple sclerosis, but I don’t know a thing about you. My job is to learn about you, and your job is to teach me about you. You are an experiment of one. Let’s travel on this journey together.”

I cried, I was so relieved. He started me on Solumedrol (methylprednisolone) infusions and asked me to draw up a list of personal goals. We had a family meeting. My goals were simple: I wanted the disease to progress as slowly as possible, to keep playing the saxophone, and not to take any drugs that would make me depressed (I’ve been told that I’m a pathological optimist and I know that’s my greatest strength). At the next meeting my neurologist and I came up with a management plan: Copaxone (glatiramer); vitamin D; physiotherapy for mobility, safety, and strength; and to continue to play the saxophone. He said playing the saxophone is the best treatment for multiple sclerosis—it helps my lung capacity, dexterity, and mood.

I then started to get intense tingling in my lower arms and hands, electric zaps from my groin to my feet, and severe leg cramps. The neurologist wanted to put me on gabapentin. I asked if it would dull my mind. He said it might. I filled the prescription but couldn’t bring myself to take it. I went to a massage therapist and acupuncturist. At the next visit to the neurologist I told him what I had done. He said, “I’m not an expert in those modalities, but I support anything that works for my patients. Keep the gabapentin. Take it if the pain gets intolerable. And keep me informed.” I thought I had died and gone to heaven.

Shared goals and shared understanding

It was tough for a while. I was scared and hypervigilant about any real or imagined symptom. The neurologist signed me up for the electronic patient portal so I could communicate with him easily. I probably sent 25-30 texts over three months with questions and concerns. He or his nurse responded with “don’t worry about it” (most of the time), or “if you still experience that tomorrow let me know,” or “I need to see you today” (this only happened once). Together we settled on a care plan of exercise, acupuncture, massage, meditation, and paracetamol as needed. The pain isn’t gone, but I can tolerate it and function pretty well. I am not in a regular job but work when I can. I see the neurologist once or twice a year now and he always asks, “Have you fallen?” “Are you still playing the sax?” He says that these are my personal barometer, and that he knows me and cares.

EDUCATION INTO PRACTICE

- Many clinicians and patients hope for relationships as productive as this. What day to day barriers do you find to achieving such a relationship?
- A frank delineation between the doctor being the disease expert and the patient being their body expert seemed to help here. How do you set expectations about your role in a patient’s care? Are there ways you could alter this?
- The doctor did not lose sight of the goals that mattered to the patient. How do you mentally or in your documentation keep track of the things that matter to people? Are there ways in which you can do this better?
- A flexible approach to clinical contact worked here with a mixture of face to face visits and text service. In what ways can your patients contact you? Are there different ways you could do this? Which groups of patients might this help?
- On the basis of reading this article do you reflect on your practice differently?

Correspondence to: danny@health-hats.com
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CASE REVIEW
A patient with a painful and swollen hand

A 26 year old man presented to the emergency department with a painful and swollen right hand. The previous night he had punched a wall. He was previously fit and well with no substantial medical history. On examination his hand was swollen and bruised, but there was no open wound. He had tenderness over the dorsum of the hand, particularly over the fifth metacarpal. There was no obvious deformity, scissoring, or malrotation of the fingers, but he was unable to make a full fist due to the pain. On extension there was an extensor lag of the little finger. Radiographs were taken (figure) and his hand was put in a volar backslab.

1. What injury has the patient sustained?
2. How should a patient with this diagnosis be managed?
3. What are the potential complications of this injury?

Submitted by Alexander E J Trevatt, William Maynard, Roger Adlard
Patient consent obtained.
Cite this as: BMJ 2017;358:j3127

1 The patient has sustained a closed fracture to the neck of the fifth metacarpal of his right hand, also known as a “boxer’s fracture.” The radiographs show a simple extra-articular fracture with minimal displacement.
2 Delayed fracture union, extensor tendon lag, and malunion are the most common complications in fifth metacarpal fractures. This patient will need a referral to a hand therapist to address any inability to make a full fist.

If you would like to write a Case Review for Endgames, please see our author guidelines at http://bit.ly/29HCBAL and submit online at http://bit.ly/29yyGSx

SPOT DIAGNOSIS
A smoker with joint pain

A 45 year old man presented with a six month history of painful joints, cough, fever, and weight loss. He had a smoking history of 15 pack years. On examination there was synovitis of the hands, feet, and ankles. Radiographs were taken of the chest, ankle, hands, and feet. The chest radiograph and computed tomography image of the thorax showed a lung mass. A biopsy found a poorly differentiated epithelioid malignancy (non-small cell lung cancer). What does the radiograph of the ankle show?

Submitted by Annabel Suarez, Benjamin Faber, Andrew Stanton
Patient consent obtained.
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**MINERV A** A wry look at the world of research

### Mighty mites
A 48 year old woman developed respiratory distress soon after eating a pancake. The flour she had used to make the pancake was contaminated with numerous brown dots of *Dermatophagoides farinae* mites (figure). The patient had stored the flour at room temperature for four years, and had not experienced any respiratory problems when she ate pancakes made from the flour previously. From these findings, pancake syndrome was diagnosed. Pancake syndrome is an oral mite anaphylaxis caused by the ingestion of food prepared using flour contaminated with mites. To avoid this, flour should be stored in a sealed container in the refrigerator.

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### Telemedicine for headaches
A large trial in northern Norway compared telemedicine consultations with the usual outpatient appointment for people complaining of headache (Neurology doi:10.1212/WNL.0000000000000485). Evaluated 3 and 12 months later, telemedicine proved as good as the traditional approach in reducing pain and the effect of headache on patients’ lives. Equally important, it was no worse at detecting headaches caused by underlying disease. The investigators were trying to find a way to make specialist neurological advice available to people living in remote areas. But the results probably also apply where there are no mountains or f jords to hinder access to care.

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### Skin pigmentation and hearing loss
Black people are only half as likely as white people to develop hearing loss as they get older. One possible explanation is that melanocytes in the inner ear protect hair cells from reactive oxygen species. Unfortunately, this idea gets little support from an analysis of data collected from more than 50000 white women who participated in the Nurses Health Study (Am J Epidemiol doi:10.1093/aje/kwx024). There were no associations between hair colour, skin tanning ability, or reactivity to sun exposure and likelihood of hearing loss.

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### Is sugar the right target?
Politicians and policy makers often come under pressure to help people reduce their sugar intake to combat obesity. Data from the UK Biobank study suggests that this might be the wrong approach (Int J Epidemiol doi:10.1093/ije/dyw173). More than half of the 132 479 participants in the study were overweight or obese and their energy intake was higher than that of participants whose body mass index was normal. However, it was fat not sugar that provided most of the excess calories.

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### Cardiovascular risk in people with gout
Urate lowering treatment is moderately effective in preventing relapse in people with gout. Whether this approach does anything to reduce the raised cardiovascular risk associated with this inflammatory arthritis is another matter. A systematic review of randomised controlled trials of urate lowering drugs finds no reduction in cardiovascular events compared with placebo, but the trials were too short and cardiovascular events too infrequent to be sure (Rheumatology doi:10.1093/rheumatology/kex065).

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### How glyceryl trinitrate works
Although glyceryl trinitrate has been in use for well over a century, its mechanism of action in relieving angina is still being investigated. A study in Circulation persuaded patients with coronary artery disease to exercise on a supine cycle ergometer during cardiac catheterisation and administered sub-lingual glyceryl trinitrate when angina developed (Circulation doi:10.1161/CIRCULATIONAHA.116.025856). The predominant effect was a fall in aortic pressure, leading to reduced myocardial oxygen demand. Coronary blood flow rose despite the fall in systemic pressure.

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### Irritable bowel syndrome
FODMAPs is a useful if ugly acronym for fermentable oligosaccharides, disaccharides, monosaccharides, and phenols. A small randomised trial in Gut suggests that a diet containing reduced quantities of these substances leads to fewer symptoms in people with irritable bowel syndrome (Gut doi:10.1136/gutjnl-2015-311339). The underlying mechanisms aren’t clear, but urinary analysis showed that histamine excretion, an indicator of immune activation, was lower in the group allocated to reduced FODMAP intake.

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### From hiding in the pub to cutting the cord
An essay in Social History of Medicine charts the evolving role of fathers at the birth of their children (Soc Hist Med doi:10.1093/shm/hkx057). In 1950, the idea that a man who wasn’t a doctor might be present at childbirth was out of the question. By 2000, it was almost taken for granted that the father would be present. The author reckons that the change began when men became involved in births at home. It took a while before hospitals changed their policies.

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