

education

ART OF MEDICINE

Death (of a toy)

Parents of young children will need no introduction to Olaf the Snowman. The hero of Disney's hit film *Frozen* achieves immortality by the end of the film in the form of his own personal winter in which he can frolic. Sadly, for Olaf the Helium Balloon, who came home with my 3 year old a couple of weeks ago, there was no such reprieve. We explained that he wouldn't last forever, and this was accepted with cheerful stoicism. Now, however, his stick arms are sagging, his once plump sides are beginning to droop, and a weak levitation just above a bookcase is all he can manage.

Daily there are questions. Is Olaf going to "get very little" in the end? What will happen to him once the critical "littleness" is reached? Will we have to put him in the bin? Will Olaf be sad about it? Is he sad already?

I've heard these questions many times before. When will death happen, and what will it be like? While I now feel relatively competent to deal with them professionally, facing them from a small child every bit as earnest in his inquiries, I flounder as much as during those early dreaded discussions with families on the care of the elderly wards.

On one level, it is simplistic to state that early childhood is preparation for adulthood. Nonetheless, I am continually amazed (and overwhelmed) by how much of a young child's existence is taken up with building templates for future social functioning—in this case the wherewithal to face loss with humanity and rationality.

Rose Penson, general practitioner, Pendre Surgery, Holywell, Flintshire, Wales
rosepenon@btinternet.com

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PRACTICE UPDATES

Excited delirium and acute behavioural disturbance

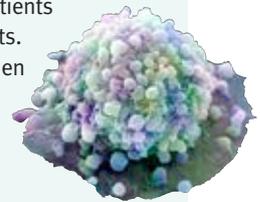
Acute behavioural disturbance (ABD) is the sudden onset of aggressive, violent behaviour and hyperadrenergic autonomic dysfunction (hyperthermia, tachycardia, tachypnoea), usually in the presence of "acute on chronic" drug misuse or serious mental illness. Also known as excited delirium, ABD is a medical emergency with a 10% risk of sudden death. Patient restraint in ABD should be kept to an absolute minimum, rapidly followed by sedation with intramuscular or intravenous benzodiazepines, antipsychotics, or ketamine and accompanied by monitoring of vital signs. Restraint in the prone position must be avoided. Early recognition and aggressive management of acidosis and hyperthermia may reduce mortality, and clinicians should have a high index of suspicion for rhabdomyolysis and disseminated intravascular coagulation.

• <http://bit.ly/29aMNR7>

Changes to cervical cancer screening

In the UK, cervical cancer affects 3200 women each year and causes 840 deaths. Women between the ages of 25 and 64 years are invited for routine cervical screening. Although human papilloma virus (HPV) is the main cause of most cervical cancers (99.7%), women are not currently screened for HPV; instead HPV is tested for only in patients who have abnormal cytology results. After a successful pilot study, women will now be screened for HPV first. This new screening process could prevent up to 600 cancers a year.

• <http://bit.ly/29iaHa2>



FAST FACT—HORMONAL CONTRACEPTION AND BLEEDING

When assessing a woman using hormonal contraception who reports problematic or breakthrough bleeding, it is important to

- Take a thorough history to identify possible causes of the bleeding
- Exclude sexually transmitted infections and pregnancy

- Check the cervical screening history and ensure it is up to date
- Exclude underlying pathology.

Also ask about contraception compliance, illness that may have affected oral contraception absorption, and drug history for interacting medication.

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Suspected sepsis: summary of NICE guidance

Andreas Freitag,¹ Margaret Constanti,¹ Norma O'Flynn,¹ Saul N Faust,² on behalf of the Guideline Development Group

The UK Parliamentary and Health Service Ombudsman inquiry “Time to Act” found failures in the recognition, diagnosis, and early management of those who died from sepsis,¹ which triggered this guidance. In sepsis the body’s immune and coagulation systems are switched on by an infection and cause one or more body organs to malfunction with variable severity. The condition is life threatening. Although most people with infection do not have and will not develop sepsis, non-specific signs and symptoms can lead to late recognition of people who might have sepsis. We would like clinicians to “think sepsis” and recognise symptoms and signs of potential organ failure when they assess someone with infection, in a similar way to thinking “Could this chest pain be cardiac in origin?”

We would like clinicians to “think sepsis” in a similar way to thinking “Could this chest pain be cardiac in origin?”

While sepsis is multifactorial and rarely presents in the same way, the Guideline Development Group considered that use of an easy, structured risk assessment may help clinicians identify those most severely ill who require immediate potentially lifesaving treatment. This guideline ensures that patients defined as having sepsis by recent definitions are, as a minimum, assessed as moderate-high risk.² This guidance is also about appropriate de-escalation if sepsis is unlikely and broad spectrum antibiotics or hospital admission are not appropriate.

This article summarises recommendations from the National Institute for Health and Care Excellence (NICE) guideline for the recognition, diagnosis, and management of sepsis in children and adults.⁴ Recommendations and the clinical pathway are available via the NICE website, and the UK Sepsis Trust tools are being revised to align with this guidance.⁵

This guidance provides a pragmatic approach for patients with infection who are assessed in the community, emergency departments, and hospitals by a wide range of general and specialist healthcare professionals. It includes guidance on assessment of risk factors followed by a detailed structured assessment of potential clinical signs and symptoms of concern.

Definitions of sepsis have been developed,² but these offer limited explanation on how to confirm or rule out the diagnosis in general clinical settings or in the community.³ Current mechanisms to diagnose sepsis and guidelines for use largely apply to critical care settings such as intensive care.² We recognised a need for better recognition of sepsis in non-intensive settings and for the diagnosis to be entertained sooner.

WHAT YOU NEED TO KNOW

- “Think sepsis” in any person with suspected infection
- Sepsis may present with non-specific symptoms and signs and without fever
- Have a high index of suspicion of sepsis in those who are aged <1 year or >75 years, pregnant, or immunocompromised, and those who have a device or line in situ or have had recent surgery
- Use risk factors and any indicators of clinical concern to decide if full assessment is required
- Offer people at high risk of sepsis broad spectrum antibiotics and intravenous fluids in hospital

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 Development Group’s (GDG) experience and opinion of what constitutes good practice.

Think sepsis

- People with sepsis may have non-specific, non-localised presentations—such as feeling very unwell—and may not necessarily have a high temperature.
- Pay particular attention to concerns expressed by the patient and his or her family or carers, such as changes from usual behaviour. Take extra care when people cannot give a good history, such as people with English as a second language or with communication problems.
- Assess people with any suspected infection to identify:
 - The possible source of infection
 - Factors that increase risk of sepsis (see box of risk factors)
 - Any signs that are indicators for clinical concern, such as new onset abnormalities of behaviour, circulation, or respiration.
- If making a remote assessment, identify factors that increase risk of sepsis (see box) or indications of clinical concern when deciding whether to offer a face-to-face assessment and the urgency of the assessment.
- Use a structured set of observations to assess people in a face-to-face setting to stratify risk if there is clinical concern and sepsis is suspected. Consider using an early warning score to assess people with suspected sepsis in acute hospital settings.

¹National Guideline Centre, Royal College of Physicians, London

²NIHR Wellcome Trust Clinical Research Facility, Faculty of Medicine, University of Southampton and University Hospital Southampton NHS Foundation Trust, Southampton, UK s.faust@soton.ac.uk

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 thebmj.com.

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⚠ Risk factors for sepsis



HOW PATIENTS WERE INVOLVED IN THE CREATION OF THIS ARTICLE

Lay members joined the committee to form the recommendations summarised here. Patient organisations including the UK Sepsis Trust, MRSA Action UK, Group B Strep Support, Fiona Elizabeth Agnew Trust, and Meningitis Research Foundation were among the registered stakeholders that were consulted at both scoping and development stages. Their involvement shaped the scope of the guideline and questions to be asked.



A baby with a meningococcal septicaemia rash

MEDISCAN/LAMY

- Suspect neutropenic sepsis in patients who are having anticancer treatment.

Risk stratification

The GDG found evidence of low quality, and used this as a starting point for their recommendations. If a person has infection and there is clinical concern that he or she might have sepsis, perform a structured assessment using the history and physical examination to grade risk of severe illness or death from sepsis (see infographic).

- Changes in behaviour, in particular a new altered mental state, are a strong risk factor for mortality
- Increased respiratory rate is associated with poor patient outcome and diagnosis of infection, particularly because pneumonia is a common cause of sepsis
- Extreme values of blood pressure are a cause of clinical concern. However, blood pressure should be interpreted in the context of a person's previous blood pressure if this is known
- Tachycardia is a risk factor for serious infections and sepsis, and for admission to intensive care and mortality
- Fever may be a risk factor for sepsis, although some studies showed that a high proportion of patients with sepsis did not have a temperature. In particular, elderly people, people receiving cancer treatment, and those who are severely unwell with sepsis are less likely to develop a raised temperature.
 - Very high temperature is unusual in children, and therefore it is often indicative of bacterial infection.

- Mottled or ashen appearance; cyanosis of skin, lips, or tongue; and a non-blanching rash of skin are markers of high risk for severe illness or death.

Early management of people with suspected sepsis

The management pathway depends on setting, patient's age, and outcome of the structured assessment. Again, the evidence base was generally of low quality.

Setting

Outside hospital, people with a low risk of illness or death following structured assessment can be managed in a community setting and should not be referred to hospital. People with moderate to high risk may be managed outside acute hospital settings depending on clinical assessment. All those with high risk of illness or death from suspected sepsis should be referred to hospital.

Source of infection

As part of the initial assessment, look for a source of infection, including sources that might need surgical drainage. Target testing according to history and examination—for example, urine analysis for those with suspected urinary tract sepsis. Imaging of the abdomen and pelvis should be considered if no likely source is identified after clinical examination and initial tests.

Competing interests: We declare interests based on NICE's policy on conflicts of interests.

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How valuable is physical examination of the cardiovascular system?

Andrew Elder,¹ Alan Japp,² Abraham Verghese³

¹Department of Geriatric Medicine, Edinburgh Medical School, Edinburgh, UK

²Department of Cardiology, Edinburgh Medical School, Edinburgh, UK

³Department of Medicine, Stanford University, Palo Alto, CA, USA

Correspondence to: A T Elder, Department of Acute Medicine of Older Age, Western General Hospital, Edinburgh EH4 2XU, UK atelder@gmail.com

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Introduction

Some of the earliest accounts of the interaction between a patient and his or her doctor concern the physical examination of the cardiovascular system.¹ The primary purpose of such an examination is to assess the presence, nature, and severity of cardiovascular disease.

Substantial evidence of the diagnostic value of specific elements of the physical examination of the cardiovascular system exists,^{2,3} but its methodological quality varies widely. Value of the physical examination extends beyond contribution to diagnosis (fig 1) and is in part dependent on the clinical context in which a sign is sought and used (fig 2).

Methodological considerations

Ideal standards for tests of diagnostic accuracy have been described, but many studies of the diagnostic accuracy of physical examination fail to meet such criteria.²² For example, studies are generally small; participants are often poorly characterised beyond age, sex, and primary diagnosis; analyses are typically univariate rather than multivariate; and there are relatively few systematic reviews or meta-analyses.

Detailed discussion of selected signs

Jugular venous pulse and estimation of central venous pressure

Several studies suggest that clinical measurement of the JVP tends to underestimate the CVP measured by cardiac catheterisation. In some studies, this may reflect

underestimation of the distance between the classic anatomical reference point of the sternal angle and the central right atrium, now recognised as 8 cm rather than 5 cm.⁷⁵ Although the right internal jugular vein has traditionally been regarded as the most accurate manometer, studies using either the left internal jugular vein or external jugular vein have yielded accurate results.⁷⁶

If the clinical measurement is made from the sternal angle, in whatever position the top of the pulsating venous column can be seen, a JVP of more than 3 cm above the sternal angle has an LR+ of 10.4 (95% confidence interval 5.5 to 19.9) and an LR- of 0.1 (0 to 0.6) for a CVP of more than 12 cm H₂O (see figs 3 and 4 for information on likelihood ratios).² In a single study, in which the external jugular vein was used, a JVP of less than 3 cm above the sternal angle had an LR+ of 8.4 (2.8 to 25) and an LR- of 0.1 (0 to 0.7) for a CVP below 5 cm H₂O.⁷⁰

Signs of peripheral perfusion and shock syndromes

In a sub-study of 513 patients in intensive care with acute lung injury randomised to receive a pulmonary artery catheter, the combined presence of three physical examination findings (capillary refill time >2 s, knee mottling, or cool extremities) was highly specific but insensitive for identifying low cardiac output (<2.5 L/min/m²; specificity 98%; sensitivity 12%; LR+ 7.5) and low mixed venous oxygen saturation (<60%; specificity 99%; sensitivity 8%; LR+ 8.0).⁸⁰

In intensive care patients with septic shock, capillary refill time greater than 2.4 s at the fingertip (LR+ 3.0; LR- 0.25) or less than 4.9 s at the knee (LR+ 5.1; LR- 0.21) six hours after diagnosis was predictive of death at 14 days.⁸¹ In a large study of consecutive acute adult medical admissions, prolonged capillary refill time on

WHAT YOU NEED TO KNOW

- JVP provides a reasonable estimate/approximation of central venous pressure
- Examination is useful for opportunistic detection of atrial fibrillation, abdominal aortic aneurysm, and valvular heart disease
- Examination findings assist in diagnosis, prognosis and treatment of heart failure but their absence is of little value in excluding the diagnosis
- Examination helps differentiate functional from pathological murmurs in asymptomatic patients
- Value of physical examination extends beyond its contribution to diagnosis



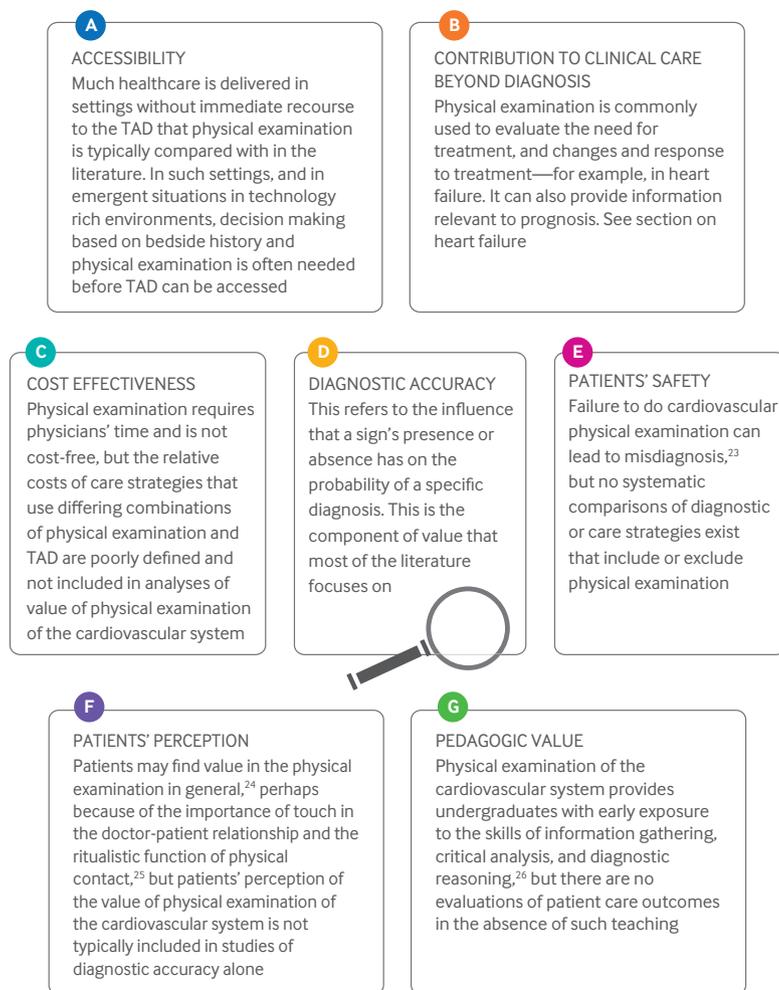


Fig 1 | Factors contributing to the value of physical examination of the cardiovascular system. TAD=technological aids to diagnosis

Clinical question	Example context
Does this patient have cardiovascular system disease?	<ul style="list-style-type: none"> Screening examination in an asymptomatic patient Systems' examination as part of routine clerking An abnormality is found by a technical aid to diagnosis and clinical evidence of cardiac disease is sought
Does this patient have a specific type of cardiovascular system disease?	<ul style="list-style-type: none"> Evaluation of a patient with dyspnoea for evidence of heart failure
What kind of heart disease does this patient have?	<ul style="list-style-type: none"> A murmur is heard, and physical examination is used to determine the cause
Is this patient responding to treatment?	<ul style="list-style-type: none"> A patient with heart failure is examined for evidence of decompensation
How severe is this patient's cardiovascular system disease?	<ul style="list-style-type: none"> A murmur is found, and evidence of severity of valvular disease is sought
What is the prognosis of heart disease?	<ul style="list-style-type: none"> A patient with acute coronary syndrome is examined for clinical signs indicating prognosis

Fig 2 | Clinical questions and contexts in which physical examination of the cardiovascular system is applied

admission predicted one day and seven day mortality, independently of other demographic and clinical variables, with odds ratios of 1.69 (95% confidence interval 1.20 to 2.39; P=0.003) and 1.38 (1.12 to 1.69; P=0.002), respectively.⁸²

Pulsatile abdominal mass and abdominal aortic aneurysm

In studies in which aneurysmal dilatation is defined as greater than 3 cm, a pulsatile abdominal mass has an LR+ of between 8.0 (4.2 to 15.3)⁸⁵⁻⁹⁰ and 12 (7.4 to 19)⁹¹ for the presence of an aneurysm of this dimension. In general, the higher the aortic diameter used to define aneurysmal dilatation and the lower the abdominal girth,⁹² the higher the sensitivity of palpation. Therefore, a finding of a pulsatile mass in the abdomen on opportunistic physical examination suggests the presence of an abdominal aortic aneurysm and should prompt consideration of imaging.⁹³

Arterial pulse rhythm and atrial fibrillation

Studies of the value of pulse palpation as a screening tool for atrial fibrillation are comparatively large and have been included in systematic reviews and consensus guidance.^{94 95} Data pooled from three major studies indicate that the opportunistic finding of "any pulse irregularity" has an LR+ of 3.3 (3.0 to 3.7) for the presence of atrial fibrillation on electrocardiography.⁹⁶⁻⁹⁸ When such irregularity is absent, this has an LR- of 0.1 (0.1 to 0.2). This modest positive diagnostic value is greatly increased if the definition used is "continuous pulse irregularity," when the LR+, derived from one large study,⁹⁶ rises to 24.1 (15.2 to 38). On the basis of these findings, pulse palpation for detection of atrial fibrillation is likely to have the greatest practical utility when used as an initial opportunistic screening method, identifying patients who need an electrocardiogram to confirm the underlying rhythm.

Absent peripheral pulses and bruits and peripheral arterial disease (PAD)

In patients with symptoms suggestive of PAD, such as claudication, a palpable pulse abnormality and a lower limb bruit both have significance (LR+ 4.70 (2.20 to 9.90) and 5.60 (4.70 to 6.70), respectively).⁹⁹ Cool skin (LR+ 5.90, 4.10 to 8.60) and wounds or sores on the foot (LR+ 5.90, 2.60 to 13.40) also support the diagnosis, but other features such as hair loss, skin colour, and Buerger's test are of little or no value.^{50 101} In asymptomatic people, a femoral bruit has an LR+ of 4.80 (2.40 to 9.50) and "any pulse abnormality" has an LR+ of 3.10 (1.40 to 6.60). The absence of these signs does not exclude PAD but reduces the likelihood of severe disease.⁹⁹

Thus, the presence of abnormal physical examination findings may help to confirm the need for further investigation in patients with symptoms compatible with PAD. Insufficient evidence exists to support the use of physical examination in isolation as a screening tool in asymptomatic people, but further investigation may be reasonable following opportunistic detection of abnormalities in patients at moderate to high risk of PAD.

Abdominal bruits and renovascular hypertension

In patients with hypertension, abdominal bruits with systolic-diastolic components are strongly supportive of a diagnosis of renovascular disease (LR+ 39; LR- 0.6; no confidence interval presented)¹⁰⁵ and bruits with isolated systolic components less so (LR+ 5.6, 4 to 7.7; LR- 0.6,

no confidence interval presented).¹⁰⁶⁻¹⁰⁹ Accordingly, auscultation for abdominal bruits may help to identify patients who need renal Doppler ultrasound. However, the absence of bruits does not exclude the presence of renal artery stenosis.

Carotid bruits and carotid stenosis

Meta-analysis suggests that carotid bruits are of moderate value in the detection of clinically relevant (>70%) carotid stenosis, with pooled sensitivity of 0.53 (0.50 to 0.55), specificity of 0.83 (0.82 to 0.84), and diagnostic odds ratio of 4.32 (2.78 to 6.66).¹¹⁰ Patients with known or suspected carotid territory cerebrovascular disease should undergo appropriate imaging of the vessel regardless of carotid auscultatory findings, as absence of a bruit does not exclude disease. However, opportunistic detection of a bruit in other settings should prompt consideration of further investigation, as detection of significant carotid stenosis may have important therapeutic implications such as the need for secondary preventive measures.¹¹¹

Physical examination in heart failure

In general, physical examination findings in heart failure lack sensitivity, and their absence has minimal value in excluding the diagnosis. Additionally, dependent oedema and pulmonary rales are relatively non-specific and have, at best, modest value for ruling in heart failure. However, elevated JVP, third heart sound, and displacement of the apex beat are each highly specific and substantially increase the likelihood of heart failure. When present, a third heart sound strongly supports the diagnosis of heart failure, although it is detected infrequently in community settings (1-5%), which may limit its practical value. In contrast, a displaced apex beat was the most helpful physical examination finding in a meta-analysis of primary care studies and, in a subsequent study, retained substantial diagnostic value after adjustment for other physical examination findings and symptoms (odds ratio 5.4, 2.8 to 10.5). A raised JVP increases the probability of heart failure across all clinical settings and, in primary care, has diagnostic value independent of all other clinical variables and electrocardiography findings (odds ratio 8.7, 2.6 to 29.2).¹²⁶

In patients with stable or decompensated heart failure, signs of congestion or the presence of a third heart sound predict a range of adverse outcomes



JVP provides a reasonable estimation of CVP

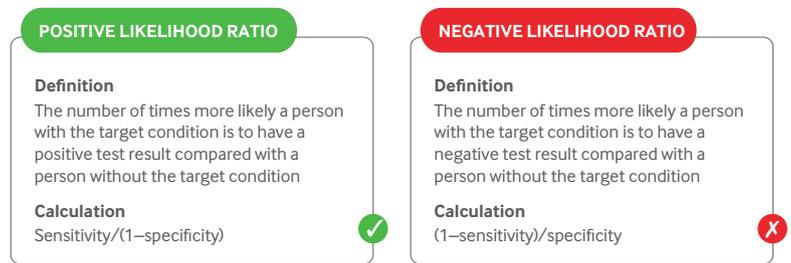


Fig 3 | Statistical indices of diagnostic accuracy in studies of physical examination of the cardiovascular system

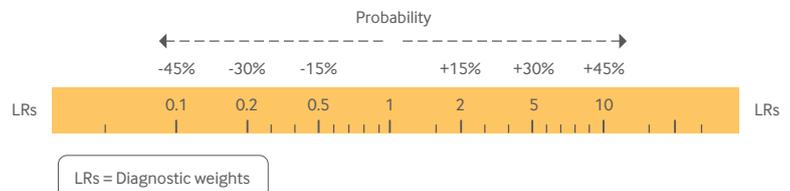


Fig 4 | Approximating probability with likelihood ratios (LRs). Reproduced from McGee² with permission

independently of other established prognostic variables including age, New York Heart Association class, and left ventricular ejection fraction.⁴

Abnormal systolic murmur and valvular heart disease

An important aspect of clinical evaluation is to distinguish “functional” murmurs from pathological murmurs. Guidelines do not recommend echocardiographic evaluation of suspected functional murmurs in asymptomatic people.¹²⁸⁻¹²⁹

The physical examination is useful in assessing possible valvular heart disease in asymptomatic patients without known cardiac disease and in patients attending the emergency department,¹³⁴⁻¹³⁵ with a pooled LR+ of 15 (11 to 20)³ for an “abnormal” murmur and 0.25 (0.17 to 0.36) for a functional murmur or no murmur. Substantial agreement existed between non-cardiologist emergency department physicians for identification of a systolic murmur ($\kappa=0.8$).¹²⁷

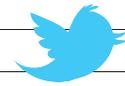
Intensity and duration of the murmur are the most helpful features to differentiate functional from pathological murmurs. A loud murmur and holosystolic timing help to rule in and rule out underlying valve disease, with an LR+ of 6.5 (2.3 to 19) and 8.7 (2.3 to 33) and an LR- of 0.08 (0.02 to 0.31) and 0.19 (0.08 to 0.43), respectively.¹³⁰ A systolic thrill is strongly suggestive of significant valve disease, but its absence is not useful in ruling out a pathological murmur (LR+ 12, 0.76 to 205; LR- 0.73, 0.58 to 0.93).¹³⁰

Auscultation for a systolic murmur is therefore helpful in determining the likelihood of valvular heart disease and allows patients with suspected valve disease to receive further investigation (usually echocardiography) to confirm the nature and severity of valve pathology while avoiding unnecessary investigation in patients with low likelihood of valve disease. For a detailed discussion of the role of the physical examination in characterising specific valvular lesions, please see the full article on thebmj.com.

Competing interests: None declared.

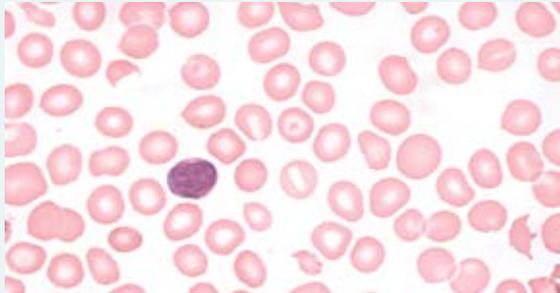
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CASE REVIEW

A pregnant woman with anaemia and thrombocytopenia



A 28 year old woman who was 31 weeks pregnant attended the emergency department of our hospital with acute onset of abdominal pain in her right upper quadrant. She had undergone regular antenatal check-ups in the midwifery clinic, with no problems reported. She had no medical history of note and was not taking any drugs. She was a non-smoker and before she was pregnant she rarely drank alcohol. Her cardiovascular, respiratory, and neurological examinations were unremarkable apart from high blood pressure (136/104 mm Hg, pulse 88 beats per minute). She had no peripheral oedema.

The fetal heart sounds were normal. The urine protein to creatinine ratio showed no evidence of proteinuria.

A full blood screen showed a low platelet count ($25 \times 10^9/L$; reference range 150-400), high neutrophil count ($14 \times 10^9/L$; 2.0-8.0), low haemoglobin (94 g/L; 130-170), and raised absolute reticulocyte count ($204 \times 10^9/L$; 50-100).

Red blood cells with morphological abnormalities were seen on the blood film (figure). Liver function tests showed moderately raised alanine transferase (356 U/L; 0-33) and aspartate transferase (304 U/L; 0-32), mildly deranged alkaline phosphatase and

γ -glutamyl transferase values, and normal bilirubin levels. Serum lactate dehydrogenase (LDH) was high (951 U/L; 125-243) and serum haptoglobin was undetectable. A direct antiglobulin test was negative. Coagulation parameters—prothrombin time, activated partial thromboplastin time, and fibrinogen concentration—were within normal limits and D-dimer was raised. Blood glucose, serum creatinine, iron studies, vitamin B₁₂, and folate values were within the normal ranges.

- 1 What are the findings in blood film and what is the most likely diagnosis?
- 2 What investigations should be performed?
- 3 How should the patient be managed and what is the prognosis?

Submitted by Muhajir Mohamed and Arsalan Mahmud
Patient consent obtained.
This is a shortened version, full version on thebmj.com.

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Fig 1

SPOT DIAGNOSIS

Not “just” a shoulder dislocation

A 38 year old woman injured her right shoulder during a game of netball. Her shoulder dislocation was reduced under sedation in the emergency department, and her shoulder was immobilised in a sling and she was referred to fracture clinic. She is right handed and has a desk job in an office. She mentioned that she had sustained a similar dislocation twice in the past 18 months, the most recent was 8 months ago. She has no other ligament, connective tissue, or hypermobility disorders.

The axial view shoulder radiograph shows a lesion (fig 1). What is the diagnosis, and what is the next line of management?

Submitted by Raghavendra Marappa Ganeshan and Ahmed Ibrahim Bakr

Patient consent obtained.

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CASE REVIEW A pregnant woman with anaemia and thrombocytopenia

- 1 The blood film shows polychromasia, fragmented red blood cells (schistocytes), and thrombocytopenia, suggestive of microangiopathic haemolytic anaemia. The most likely diagnosis is HELLP syndrome (Haemolysis, Elevated Liver enzymes, and Low Platelet count).
- 2 HELLP syndrome is associated with severe pre-eclampsia and diagnosed by the presence of microangiopathic haemolytic anaemia, abnormal liver enzymes, and thrombocytopenia. Laboratory tests should include complete blood count with peripheral smear, reticulocyte count, liver function tests, LDH, haptoglobin, serum creatinine concentration, and urine protein to creatinine ratio.
- 3 Delivery usually cures HELLP syndrome. Management includes stabilising the mother, assessing fetal wellbeing, and deciding the timing of delivery.

SPOT DIAGNOSIS Not “just” a shoulder dislocation

Hill-Sachs lesion is a posterior-lateral depression bony defect in the humeral head, caused by the impact of the glenoid over the humeral head while the shoulder has dislocated (fig 2). Refer to orthopaedic specialists for further investigations.

Fig 2

answers

Massive lower gastrointestinal bleeding secondary to haemorrhoids

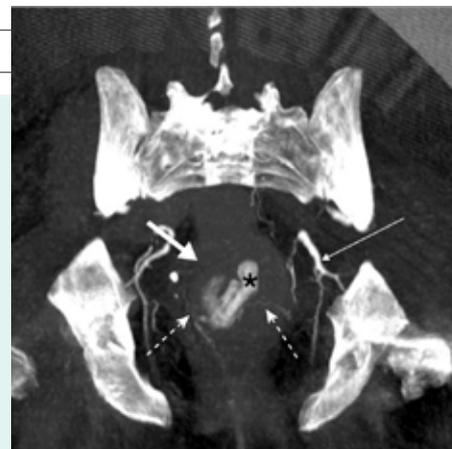
A 70 year old woman presented with profuse lower gastrointestinal haemorrhage that did not abate with massive transfusion and circulatory support. Computed tomography angiography showed bleeding from the superior haemorrhoidal plexus—the image taken 15 minutes after administration of intravenous contrast (figure) clearly shows contrast in the haemorrhoidal plexus (straight and dotted arrows) and contrast pooling in the rectum (asterisk). The termination of the inferior mesenteric artery (thick arrow)

and left internal iliac artery (thin arrow) can also be seen. She underwent successful superior haemorrhoidal plexus ligation, avoiding a laparotomy. Massive bleeding from haemorrhoids is rare but can be life threatening.

Andrew Jackson (aj_jackson@doctors.org.uk), Department of General Surgery, Royal Alexandra Hospital, Paisley PA2 9PN, UK; Andrew Renwick, Andrew Hunter, Mark Vella

Patient consent obtained.

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Shoe leather doctoring in China

In the middle of the Chinese Cultural Revolution 50 years ago, Mao Zedong gave a speech favouring the training of “barefoot doctors”—mostly farmers in rural China who would receive six months’ training to look after the basic needs of their communities. This may have had lasting effects on the perception of primary care as a career option among Chinese medical students taking five year college courses. In a cross sectional survey (*BMC Fam Pract* doi:10.1186/s12875-016-0472-5), most of the 2402 respondents indicated some willingness to work in community primary care, but most regarded it as a stepping stone rather than a destination.



Futile CA125 testing continues

In 2009, a well conducted randomised trial showed that women with ovarian cancer who were regularly tested using cancer antigen 125 (CA125) received more chemotherapy than those tested when they had a relapse, which reduced their quality of life without improving survival (*Lancet* doi:10.1016/S0140-6736(10)61268-8). But practice in the United States has continued unchanged (*JAMA Oncol* doi:10.1001/jamaoncol.2016.1842). During a 12 month period, a mean of 4.6 CA125 tests and 1.7 computed tomography scans were performed per patient, resulting in a US population surveillance cost estimate of \$2m (£1.5m; €1.8m) per year for CA125 tests alone and \$16.2m per year with computed tomography scans added. All for no gain and added burden to patients.

Revalidation and resignation

Back home in Britain, primary care doctors are also voting with their feet. One reason that older general practitioners are leaving is the five year cycle of mandatory revalidation. Comments were made by 42 respondents out of 1192 in a national survey, and none were supportive (*BMC Fam Pract* doi:10.1186/s12875-016-0489-9). Revalidation was depicted as a cumbersome tick-box exercise that had little to do with quality of care or protecting patients.

No substitute for RCTs

Recently, the idea that randomised controlled trials (RCTs) are always better than big observational studies has come under attack. But investigators from Oxford compared the large SEER dataset of breast cancer outcomes with a meta-analysis of RCTs carried out by the Early Breast Cancer Trialists’ Collaborative Group (*J Clin Oncol*

doi:10.1200/JCO.2016.68.8879). In the observational SEER data, radiotherapy was associated with statistically significantly lower rates of mortality from all causes except breast cancer, including from heart disease. In the RCT data, by contrast, radiotherapy was associated with statistically significantly higher rates of mortality from all causes except breast cancer, including from heart disease and from lung cancer.

Surgeon data dangers

A questionnaire sent to all 361 consultant cardiothoracic surgeons in the United Kingdom revealed mixed feelings about the disclosure of individual surgeon outcomes, whereas the majority favoured public disclosure of team outcomes (*Circ Outcomes* doi:10.1161/CIRCOUTCOMES.116.002749). Many thought that data about individual performance would encourage risk averse behaviour, gaming of data, and misinterpretation of data by the public.

Condom use and attractiveness

Men aged 18-69 were asked to rate the attractiveness of 20 women on the basis of facial photographs and decide whether to indicate their willingness to have sex with or without a condom with each woman (*BMJ Open* doi:10.1136/bmjopen-2015-010883). If a man judged himself or the woman particularly attractive, he would be less likely to use a condom. Political incorrectness gone mad.

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Old and breathless: heart or lungs?

Breathing difficulty is the commonest trigger for acute admission in older patients. Most of it is attributed to heart failure, pneumonia, or chronic obstructive pulmonary disease, but these diagnoses often overlap or change with repeated admissions. A study of over a quarter of a million patients aged 65 and older in 368 US hospitals finds that 32% of patients admitted with pneumonia also receive treatment for other cardiopulmonary conditions, 39% with heart failure receive treatment for pulmonary disease, and 19% with chronic obstructive pulmonary disease receive treatment for heart failure or pneumonia, or both (*J Am Geriatr Soc* doi:10.1111/jgs.14303)