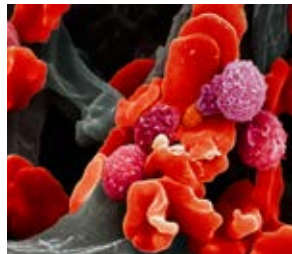


education

THE ART OF MEDICINE

A memorable patient

When the words “We think you might have blood cancer” cut through the air, she didn’t seem bothered. However, we realised we were at a crossroads when our patient said that she didn’t believe she needed a needle in her bone for hypertension—her daughter had hypertension and she had never needed such testing.



The patient visiting from abroad presented with dizziness and headache and was admitted for hypertensive crisis. She was found to have a raised protein gap, anaemia, and lytic lesions as well as a pathological rib fracture on chest radiography, leading to investigations for multiple myeloma. A bone marrow biopsy confirmed the diagnosis. To our surprise, she had never known anyone with cancer. She did not understand the word cancer, in terms of morbidity, mortality, and treatment options.

We assume that patients have a basic understanding of health and disease; that they know what cancer is. But sometimes you have to step back and explain things from the beginning. “Our body is composed of systems, which are made up of organs, which in turn are made of cells that work together. These cells live and die but sometimes do not die as they should, reproduce more than they should, and cause trouble.” I now realise that to diagnose, educate, and treat patients effectively, however basic the medical concept, we need to sit down and ask: “What do you know about . . .?” before explaining what we know.

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We welcome contributions to this column. Please email samuel.parker@bmj.com.

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CLINICAL UPDATES

Encouraging uptake of flu vaccine in pregnancy

The Royal College of Obstetricians and Gynaecologists (RCOG) is advising pregnant women to take up free flu vaccination this winter. Uptake was around 40% last year. Flu accounted for 36 deaths in pregnant women in the UK and Ireland from 2009 to 2012. An RCOG spokesperson said that some women might worry that vaccination during pregnancy could harm their baby but wanted “to reassure them that flu vaccination is safe, effective, and can be given at any stage of pregnancy.”

➤ www.rcog.org.uk/en/news/flu-vaccination-in-pregnancy-protects-both-mothers-and-babies-say-doctors-and-midwives

Reducing inpatient falls

As the most commonly reported patient safety incident, inpatient falls are a serious problem for the NHS. The Royal College of Physicians’ national audit of inpatient falls report, released this week, shows an average of 6.63 falls/1000 occupied bed days in non-elective admissions. Indicators included ensuring that mobility aids and call bells are within reach, reviewing drugs, and assessing for delirium. Immediate withdrawal of falls risk prediction tools was a key recommendation.

➤ www.rcplondon.ac.uk/projects/outputs/naif-audit-report-2015

Broadening access to pulmonary rehabilitation

For patients with severe chronic obstructive pulmonary disease (COPD), pulmonary rehabilitation offers long term benefits beyond those of drugs. “Pulmonary Rehabilitation: Time to Breathe Better,” published this week as part of the National COPD Audit Programme, emphasised the importance of providing rehabilitation to patients with severe exercise limitation secondary to COPD. Insecure funding and inadequate explanation of benefits to patients were identified as problems to be solved.

➤ www.rcplondon.ac.uk/projects/outputs/pulmonary-rehabilitation-time-breathe-better

EDUCATION INTO PRACTICE

Ideas to make an impact on patient care and quality improvement

BMJ Quality

Antipsychotics in dementia

About 90% of people with dementia experience behavioural and psychological symptoms. Recommended treatments now include watchful waiting, antidepressants, analgesia, and short term hypnotics. Antipsychotics should be used only in a time limited manner for severe distressing symptoms such as psychosis because they carry risks of stroke, thromboembolism, allergy, and death.

How could you ensure that your patients with dementia are not on inappropriate antipsychotics?

To develop this idea further as a quality improvement project, visit BMJ Quality at <http://quality.bmj.com>.

CPD/CME

You can gain CPD points from your reading by recording what you have read in your appraisal folder. You should try to link your reading back to a learning need and also consider how you plan to improve your practice as a result of your learning. <http://learning.bmj.com>

Preterm labour: summary of NICE guidance

Grammati Sarri,¹ Melanie Davies,^{1,2} Maryam Gholitabar,¹ Jane E Norman,³ on behalf of the Guideline Development Group

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Preterm birth is the single biggest cause of neonatal mortality and morbidity in the UK, affecting over 52 000 babies (around 7.3% of live births) in England and Wales in 2012.¹ About 75% of women delivering preterm do so after preterm labour,² which is sometimes preceded by preterm prelabour membrane rupture.² A "cause" for preterm labour is not always found, but it may be associated with infection. In other cases, preterm birth may result from elective delivery.

Babies born preterm have high rates of mortality, with the risk of mortality being inversely proportional to gestational age at birth.³ Babies who survive have increased rates of disability.³

This article summarises the most recent recommendations on the prevention, diagnosis, and management of preterm labour from the National Institute for Health and Care Excellence (NICE).⁴



WHAT'S NEW IN THIS GUIDANCE

- Do not use diagnostic tests for preterm labour for symptomatic women who are <30⁺⁰ weeks pregnant, but treat them as appropriate
- Use cervical length ultrasound for diagnosis of preterm labour for women at ≥30⁺⁰ weeks of pregnancy and treat them as if they are in preterm labour if cervical length is found at ≤15 mm
- Use prophylactic progesterone or cervical cerclage to prevent preterm birth to women with a history of spontaneous preterm birth or mid-trimester loss and cervical ultrasound measurement of <25 mm at 16⁺⁰ to 24⁺⁰ weeks gestation
- Use magnesium sulfate for neuroprotection for women in established preterm labour or having a planned preterm birth within 24 hours if they are between 24⁺⁰ and 29⁺⁶ weeks of pregnancy, and consider its use for women between 30⁺⁰ and 33⁺⁶ weeks of pregnancy

WHAT YOU NEED TO KNOW

- To prevent preterm birth, offer a choice of either prophylactic vaginal progesterone or prophylactic cervical cerclage to women with
 - a history of spontaneous preterm birth or mid-trimester loss between 16⁺⁰ and 34⁺⁰ weeks of pregnancy and
 - a transvaginal ultrasound scan between 16⁺⁰ and 24⁺⁰ weeks of pregnancy, showing a cervical length of <25 mm.
- To diagnose preterm labour
 - consider transvaginal ultrasound measurement of cervical length to determine likelihood of birth within 48 hours for women who are ≥30⁺⁰ weeks pregnant and are in suspected preterm labour. If cervical length is >15 mm, explain that she is unlikely to be in preterm labour.
- To treat preterm labour
 - offer tocolysis, corticosteroids, or magnesium sulfate to women in preterm labour, including those with a cervical length of <15 mm, depending on gestation and clinical circumstances.

HOW PATIENTS WERE INVOLVED IN THE CREATION OF THIS ARTICLE

Committee members involved in this guideline included three lay members, who contributed to the formulation of the recommendations summarised here.

Recommendations

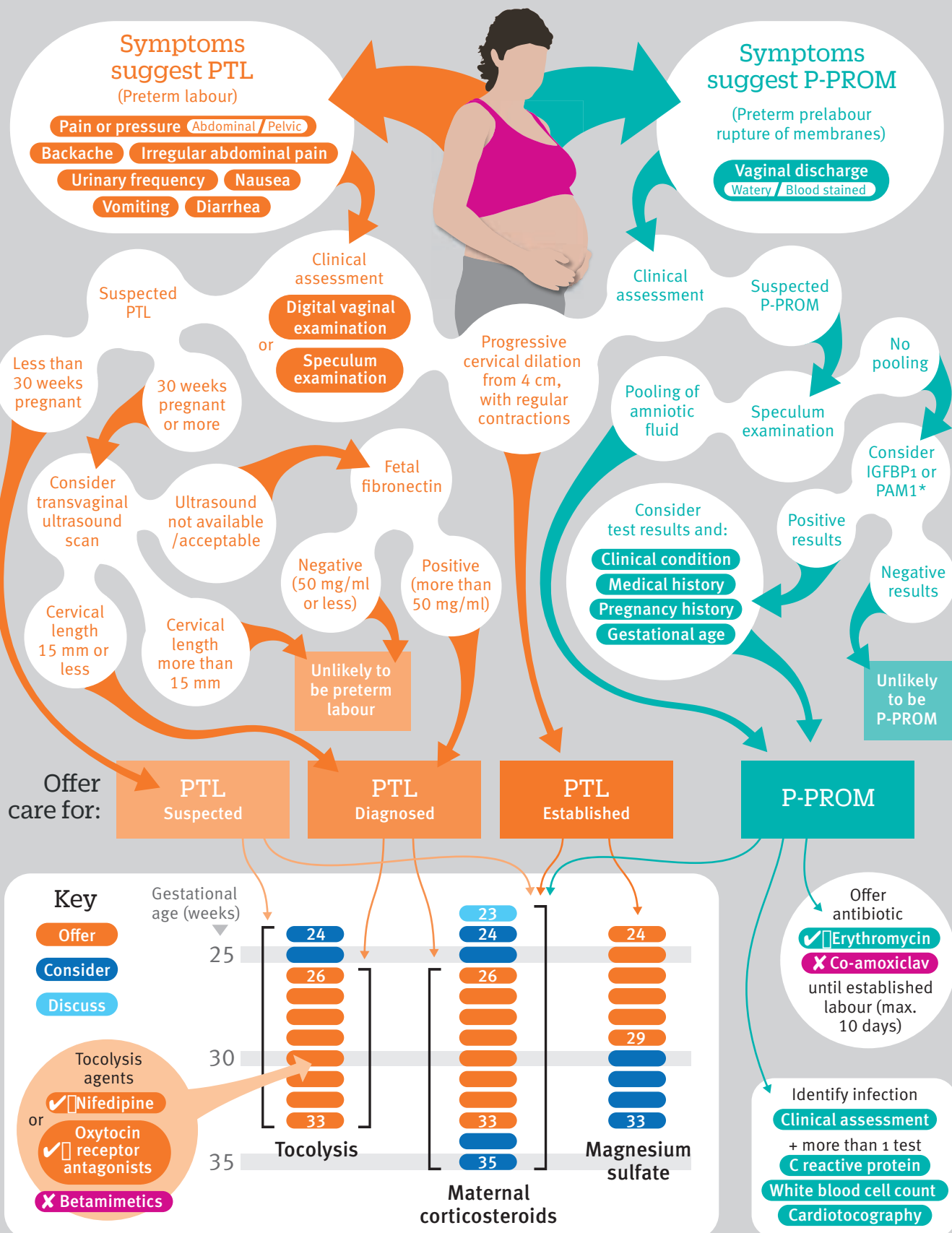
Information and support for women at risk or at preterm labour (and their family members or carers as appropriate)

- Bear in mind that the woman (and her family members or carers) may be particularly anxious.
- Give information (oral and written) and support as early as possible, taking into account the likelihood of preterm birth and the status of labour.

Information and support for women having a planned preterm birth or who are offered treatment for preterm labour (and their family members or carers as appropriate)

- Information about the likelihood of the baby surviving and other outcomes (including long term outcomes) and risks for the baby, giving values as natural frequencies (such as 1 in 100).
- Explain about the neonatal care of preterm babies, including location of care.
- Explain about the immediate problems that can arise when a baby is born preterm.

Before your time: Assessing and managing preterm events



* IGFBP1 = insulin-like growth factor binding protein-1 test | PAM1 = placental alpha-microglobulin-1 test of vaginal fluid

Prevention of preterm birth

- Offer a choice of either prophylactic vaginal progesterone or prophylactic cervical cerclage to women with
 - a history of spontaneous preterm birth or mid-trimester loss between 16⁺⁰ and 34⁺⁰ weeks of pregnancy *and*
 - a transvaginal ultrasound scan carried out between 16⁺⁰ and 24⁺⁰ weeks of pregnancy showing a cervical length of <25 mm.
- Offer prophylactic vaginal progesterone to women with no history of spontaneous preterm birth or mid-trimester loss, who have a transvaginal ultrasound scan carried out between 16⁺⁰ and 24⁺⁰ weeks of pregnancy showing a cervical length of <25 mm.
- Consider prophylactic cervical cerclage for women with a transvaginal ultrasound scan carried out between 16⁺⁰ and 24⁺⁰ weeks of pregnancy showing a cervical length of <25 mm, and with a history of either
 - prelabour rupture of membranes in a previous pregnancy *or*
 - cervical trauma.



Rescue cerclage

- Do not offer “rescue” cervical cerclage to women with signs of infection, active vaginal bleeding, or uterine contractions.
- Consider rescue cervical cerclage for women between 16⁺⁰ and 27⁺⁶ weeks of pregnancy with a dilated cervix and exposed, unruptured fetal membranes.

Fetal monitoring options (cardiotocography and intermittent auscultation)

- For women in preterm labour, discuss
 - the purpose of fetal monitoring and what it involves
 - the clinical decisions it informs at different gestational ages
 - if appropriate, the option not to monitor the fetal heart rate (for example, at the threshold of viability).
- Offer women in established preterm labour but with no other risk factors a choice of fetal heart rate monitoring using either
 - cardiotocography using external ultrasound *or*
 - intermittent auscultation.⁵

Mode of birth for women likely to deliver preterm (suspected, diagnosed, or established preterm labour)

- Discuss the general benefits and risks of caesarean section and vaginal birth with women likely to deliver preterm.⁶
- Explain the benefits and risks of caesarean section that are specific to gestational age. Highlight the difficulties associated with performing a caesarean section for a preterm birth, especially the increased likelihood of a vertical uterine incision and the implications of this for future pregnancies.
- Explain that there are no known benefits or harms for the baby from caesarean section, but the evidence is very limited.
- For women between 26⁺⁰ and 36⁺⁶ weeks of pregnancy with breech presentation, consider caesarean section.

Timing of cord clamping for preterm babies (born vaginally or by caesarean section)

- Wait at least 30 seconds, but no longer than 3 minutes, before clamping the cord of preterm babies if the mother and baby are stable.

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10 MINUTE CONSULTATION

Diagnosing chronic obstructive pulmonary disease

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A 55 year old man attends surgery with a productive cough for nine months, which he has put down to his smoking. He had “chest infections” the previous winter and takes ramipril for hypertension. His breathing is now preventing him from climbing stairs.

WHAT YOU NEED TO KNOW

- Have a low threshold for considering chronic obstructive pulmonary disease (COPD) in patients over 35 years old with dyspnoea, chronic cough, chronic sputum, wheeze or frequent chest infections, if they have a risk factor such as smoking
- Make the diagnosis of COPD on the basis of symptoms and post-bronchodilator spirometry (FEV₁/FVC ratio <0.70)

What you should cover

Have a low threshold for considering chronic obstructive pulmonary disease (COPD)—COPD is often identified only in the advanced stage. Prompt diagnosis allows early intervention. Suspect COPD in patients over 35 years old with dyspnoea, chronic cough or sputum, or wheeze or frequent chest infections (winter “bronchitis”) in the presence of a risk factor (see box 1).¹

Establish the onset, pattern of symptoms, and severity—These may help predict the course of disease. Has the patient attended hospital with chest problems before? When was the patient’s breathing last “good”? Is there anything that breathing problems stop the patient from doing, such as getting dressed or climbing stairs?

Box 1 | Risk factors for COPD²

- Smoking—Airway damage in COPD is usually caused by smoking. Calculate cigarette pack year history* as this is often related in a dose-response manner to severity and mortality
- Passive smoking
- Smoke from home cooking and heating fuels
- Occupational exposure to dusts and chemicals
- Family history

*To calculate pack years, divide the number of cigarettes smoked per day by 20 and multiply by the total number of years smoked. Values >20 pack years are considered to be significant for the development of COPD

Box 2 | Classification of severity of airflow obstruction¹

- Express post-bronchodilator forced expiratory volume in 1 second (FEV₁) as a percentage of predicted:
- ≥80% (with symptoms)—Stage 1, mild
- 50–79%—Stage 2, moderate
- 30–49%—Stage 3, severe
- <30%—Stage 4, very severe

Box 3 | MRC dyspnoea scale¹

- Grade 1—Not troubled by breathlessness except on strenuous exercise
- Grade 2—Short of breath when hurrying or walking up a slight hill
- Grade 3—Walks slower than contemporaries on level ground because of breathlessness or has to stop for breath when walking at own pace
- Grade 4—Stops for breath after walking about 100 metres or after a few minutes on level ground
- Grade 5—Too breathless to leave the house, or breathless when dressing or undressing

Exclude other diagnoses and elicit comorbidities—COPD often coexists with, or mimics other conditions. Co-morbidities can contribute to disease severity. Ask about weight loss, anorexia, and haemoptysis for lung cancer. Chest pain, orthopnoea, paroxysmal nocturnal dyspnoea, palpitations, or ankle swelling could indicate heart disease. Atopy may suggest asthma.

Medication—Are symptoms worse after taking β blockers or non-steroidal anti-inflammatory drugs (consider asthma)? Is the cough worse after ramipril (drug side effect)? Do symptoms improve with inhalers?

Consider impact on life—How do symptoms affect daily activities and family life? Have the symptoms affected the patient's work? Has this caused financial worries? Who does the patient live with, and does the patient need help at home? People with breathing problems may feel anxious or low.

What you should do

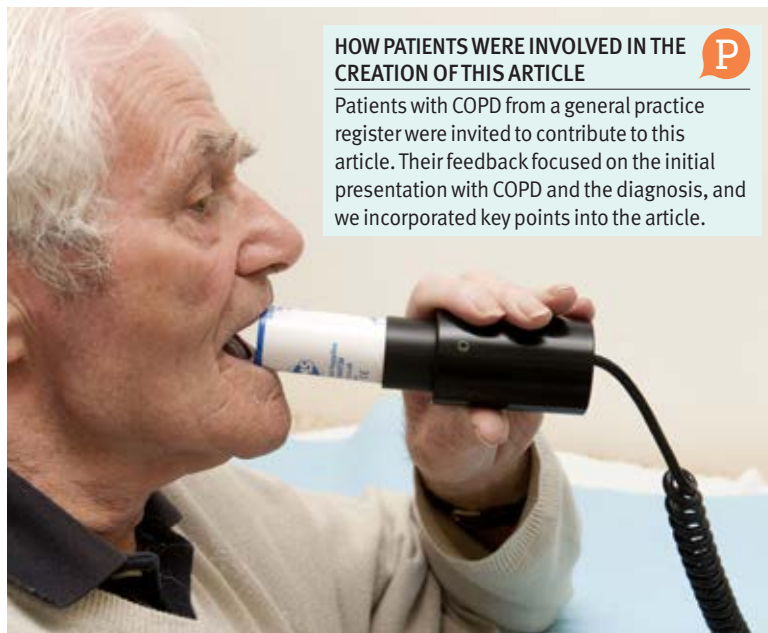
Examination

This is often normal: physical signs commonly develop only in the later stages. Systemically, muscle wasting and signs of poor nutrition may be noted. Record body mass index as values <20 are associated with poor outcomes.¹ Assess the jugular venous pressure, fluid status, and heart sounds for heart failure. Chest hyperinflation with hyperresonant percussion and globally reduced breath sounds may be noted in stable COPD, but crackles may indicate infection.

Investigations

Spirometry

- Measure post-bronchodilator spirometry: an FEV₁/FVC ratio <0.70 confirms the diagnosis of COPD.
- Classify severity of airflow obstruction (see box 2).



HOW PATIENTS WERE INVOLVED IN THE CREATION OF THIS ARTICLE

Patients with COPD from a general practice register were invited to contribute to this article. Their feedback focused on the initial presentation with COPD and the diagnosis, and we incorporated key points into the article.

DR P. MARAZZI/SPL

Other investigations

- A chest radiograph is usually indicated to exclude other pathology
- Check full blood count for polycythaemia or coexisting conditions contributing to symptoms, such as anaemia
- Further imaging and cardiac investigations may be indicated depending on clinical presentation.¹

Predict disability

Airflow obstruction alone does not predict disability. Document baseline exercise tolerance using the MRC dyspnoea scale (box 3). The COPD Assessment Test (CAT) assesses the impact of COPD on patients' lives and is sensitive to changes in clinical condition (available at www.catestonline.org).²

Management

- COPD is an unfamiliar term and may frighten patients. Explain that it is the name for a group of conditions which cause breathing difficulties, often because the airways are damaged or narrowed from smoking. Provide written information (such as <http://patient.info/health/chronic-obstructive-pulmonary-disease-leaflet>) and book a follow-up appointment
- Advising patients to stop smoking is the most effective way to prevent COPD from progressing. Explain that bronchodilator inhalers are the first line treatment and that these work by opening up the airways to help breathing. Mention that antibiotics, steroids, and oxygen may be needed. Advise patients to increase their use of bronchodilator inhalers if their symptoms worsen, and to seek medical advice if no improvement
- Take a multidisciplinary approach
- Referral to a respiratory specialist can be helpful when the diagnosis is unclear or severe COPD is suspected. Also consider referral in those aged under 40 years or with a family history of α 1-antitrypsin deficiency.

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Post-traumatic stress disorder

Jonathan I Bisson, Sarah Cosgrove, Catrin Lewis, Neil P Robert

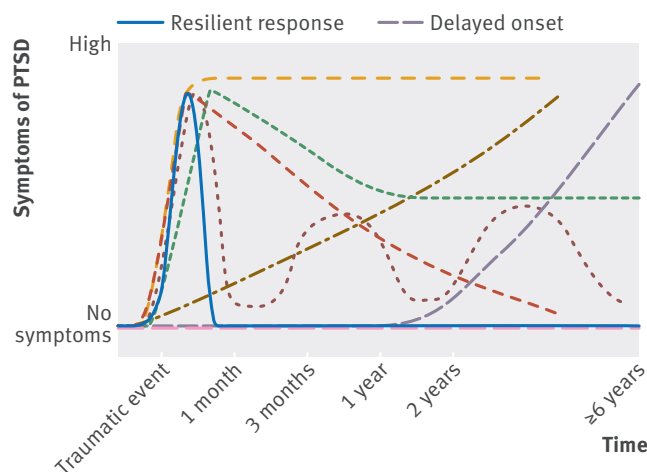
CPD/CME

1 CREDIT

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This is an edited version of the clinical review. The full version is on thebmj.com.

Examples of the many different trajectories of PTSD symptoms after exposure to trauma



WHAT YOU NEED TO KNOW

- Individual reactions to traumatic events vary greatly and most people do not develop a mental disorder after exposure to trauma
- PTSD should be considered in any patient exposed to a major traumatic event
- Up to 3% of adults have PTSD at any one time. Lifetime prevalence rates are between 1.9% and 8.8%
- Psychological treatments, particularly trauma focused psychological therapies, can be effective
- Although the effect sizes are not as high as for psychological therapies, drug treatments can be effective
- Patients with complex PTSD should receive specialist multidisciplinary care

What is post-traumatic stress disorder (PTSD)?

PTSD is a mental disorder that may develop after exposure to exceptionally threatening or horrifying events. Many people show remarkable resilience and capacity to recover following exposure to trauma.¹ PTSD can occur after a single traumatic event or from prolonged exposure to trauma, such as sexual abuse in childhood. Predicting who will go on to develop PTSD is a challenge.²

Patients with PTSD are at increased risk of experiencing poor physical health, including somatoform, cardiorespiratory, musculoskeletal, gastrointestinal, and immunological disorders.³⁻⁴ It is also associated with substantial psychiatric comorbidity,⁵ increased risk of suicide,⁶ and considerable economic burden.⁷⁻⁸

PTSD is a widely accepted diagnosis⁹ but some believe that the term medicalises understandable responses to catastrophic events and further disempowers those who are already disempowered.¹⁰

How common is PTSD?

About 3% of the adult population has PTSD at any one time.¹¹ Lifetime prevalence is between 1.9%¹² and 8.8%,⁷ but this rate doubles in populations affected by conflict¹³ and reaches more than 50% in survivors of rape.⁵

How does PTSD present?

Symptoms include persistent intrusive recollections, avoidance of stimuli related to the trauma, negative alterations in cognitions and mood, and hyperarousal (table).¹⁴⁻¹⁵ A diagnosis can be made in someone whose ability to function normally has been noticeably impaired for one month according to DSM-5 criteria. Delayed presentation (sometimes years later) is common,⁷ including where the effects are severe.¹⁶



Intrusive recollections can present years after exposure to an event

Box 1 | Traumatic event(s) required for diagnosis of PTSD

DSM-5 criteria¹⁴

Exposure to actual or threatened death, serious injury, or sexual violation, in one or more of the following ways:

- Directly experiencing the traumatic event(s)
- Witnessing traumatic event(s) in others
- Learning that the traumatic event(s) occurred to a close family member or close friend; cases of actual or threatened death must have been violent or unintentional
- Experiencing repeated or extreme exposure to aversive details of the traumatic event(s) (for example, first responders collecting human remains; police officers repeatedly exposed to details of child abuse); this does not apply to exposure through electronic media, television, movies, or pictures, unless this exposure is work related

Proposed ICD-11 criterion¹⁷

Exposure to an extremely threatening or horrific event or series of events

How is PTSD diagnosed?

See box 1 for the traumatic events required for diagnosis.^{14 17} Some events such as bullying, divorce, death of a pet, and learning about a diagnosis of cancer in a close family member are not deemed extreme enough to precipitate PTSD. However, they can result in almost identical symptoms and raise questions about the validity of the definitions for traumatic events.¹⁸

DSM-5 lists the 20 symptoms required for PTSD to be diagnosed,¹⁴ separated into four groups (table). All symptoms must be associated with the traumatic event. In the proposed criteria by ICD-11,¹⁷ PTSD will be diagnosed according to six criteria (table). To reflect the heterogeneity of PTSD, ICD-11 will introduce a new complex PTSD diagnosis (table). This requires satisfaction of the criteria for PTSD plus symptoms of mood dysregulation, negative self concept, and persistent difficulty in sustaining relationships and feeling close to others. Service users may meet the diagnostic criteria in one system but not in the other owing to the differences.¹⁹

Can PTSD be prevented?

Psychological interventions have been evaluated after traumas concerning a single incident, such as a road traffic crash and physical or sexual assaults. Meta-analyses show that brief, trauma focused, cognitive behavioural interventions can reduce the severity of symptoms when the intervention is targeted at those with early symptoms.^{20 21} However, non-targeted interventions (including psychoeducation, psychological debriefing, individual and group counselling, cognitive behavioural therapy (CBT) based programmes, and collaborative care based approaches) are largely ineffective.²²⁻²⁵ No robust evidence supports the use of drug interventions.²⁶ Evidence to support routine intervention after traumatic events involving many people (for example, terrorist attacks and natural disasters) is lacking. However, some evidence suggests that high levels of social support are perceived as protective.²⁷ Consensus guidelines recommend supportive, practical, and pragmatic input but avoidance of formal clinical interventions unless indicated.²⁸⁻³⁰

Can PTSD be treated?

Psychological therapy

Clinical guidelines recommend trauma focused psychological therapies based on evidence from systematic reviews and meta-analyses.³¹⁻³³ Individual trauma focused CBT and eye movement desensitisation and reprocessing (EMDR) (box 2) have been found to be equally effective.³⁴

Group trauma focused CBT is also effective, but fewer studies have focused on this method.³⁵ Non-trauma focused CBT—including components such as grounding techniques to manage flashbacks (for example, focusing on the here and now by describing items in a room), relaxation training (for example, controlled breathing and progressive muscle relaxation), positive thinking and self talk (for example, repeating positive phrases

| Symptoms required for diagnosis of PTSD | |
|--|--|
| DSM-5 criteria ¹⁴ | Proposed ICD-11 criteria ¹⁷ |
| Intrusion symptoms | |
| Recurrent, involuntary, and intrusive distressing memories | Vivid intrusive memories, flashbacks, or nightmares, typically accompanied by strong and overwhelming emotions such as fear or horror, and strong physical sensations |
| Recurrent distressing dreams (content and/or affect related) | |
| Dissociative reaction (acting or feeling as if event is recurring) | |
| Intense or prolonged psychological distress to cues | |
| Noticeable physiological reactions to cues | |
| Avoidance | |
| Avoidance or efforts to avoid distressing thoughts or feelings about or closely associated with the trauma | Avoidance of thoughts and memories of the event or events |
| Avoidance or efforts to avoid external reminders (people, places, conversations, activities, objects, situations) | Avoidance of activities, situations, or people reminiscent of the event or events |
| Negative alterations in cognitions and mood | |
| Inability to remember an important aspect (typically due to dissociative amnesia) | Not applicable |
| Persistent and exaggerated negative beliefs or expectations about oneself, others, or the world (for example, "I am bad," "No one can be trusted") | |
| Persistent, distorted cognitions about the cause or consequences that lead to self blame or the blame of others | |
| Persistent negative emotional state (for example, fear, horror, anger, guilt, shame) | |
| Noticeably diminished interest or participation in important activities | |
| Feelings of detachment or estrangement from others | |
| Persistent inability to experience positive emotions (for example, happiness, satisfaction, love) | |
| Alterations in arousal and reactivity | |
| Irritable behaviour and angry outbursts (with little or no provocation) | Persistent perceptions of heightened current threat—for example, as indicated by hypervigilance or an enhanced startle reaction to stimuli such as unexpected noises |
| Reckless or self destructive behaviour | |
| Hypervigilance | |
| Exaggerated startle response | |
| Problems with concentration | |
| Sleep disturbance | |
| Additional criteria for complex PTSD | |
| Not applicable | Severe and pervasive problems in affect regulation Persistent beliefs about oneself as diminished, defeated, or worthless, accompanied by deep and pervasive feelings of shame, guilt, or failure related to the stressor Persistent difficulties in sustaining relationships and in feeling close to others |

HOW WERE PATIENTS INVOLVED IN THIS CLINICAL REVIEW?

Sarah Cosgrove is a former patient with PTSD and a representative of the public in Cardiff University's Traumatic Stress Research Group. Sarah is a coauthor of the paper and provides an account of her experiences in the patient's perspective box.

A PATIENT'S PERSPECTIVE

I was diagnosed with PTSD in November 2013 in the aftermath of a violent assault. From the time of the attack to the case coming to court, I had support from police and victim services enabling me to face my assailant in court with courage and conviction.

But in the weeks after the judicial process had concluded, I started to unravel. Naturally a glass half full sort of person, I slid into a state of great anxiety, frightened to be alone, scared to be in a group, reluctant to go out, and terrified of staying at home. I knew something was very wrong. I had gone from being confident and outgoing, to not being able to sleep, being tearful, and experiencing episodes

of unparalleled low mood. My GP immediately diagnosed PTSD. Being able to put a label on what I was going through was so helpful—it meant that there was something wrong.

Fortunately, I was offered the chance to participate in a trial of a guided self help programme for sufferers of PTSD. This enabled me to both confront my experience and desensitise it, and within a few months I felt stronger than I had ever been. The programme has given me a coping strategy to employ whenever I get negative thoughts or flashbacks. It may have saved my life; at the very least it got me back to the person I used to be.

Sarah Cosgrove

Box 2 | Trauma focused exposure therapy, CBT, and EMDR

Exposure therapy

- Therapists help patients to confront their traumatic memories through written or verbal narrative, detailed recounting of the traumatic experience, and repeated exposure to trauma related situations that were being avoided or evoked fear but are now safe (for example, driving a car where the road traffic incident occurred or walking in the busy park where an assault occurred)

Cognitive therapy

- Focuses on identifying and modifying misinterpretations that led patients to overestimate the current threat (for example, patients who think assault is almost inevitable if they leave the house)
- Focuses on modifying beliefs and how patients interpret their behaviour during the trauma, including problems with guilt and shame

EMDR

- Standardised, trauma focused procedure. Involves the use of bilateral physical stimulation (eye movements, taps, or tones), hypothesised to stimulate the patient's information processing to help integrate the targeted event as an adaptive contextualised memory

such as “I can deal with this”)—has been found to be superior to waiting list control groups and has shown similar efficacy to trauma focused CBT and EMDR immediately after treatment, but this is not maintained at follow-up.³⁴ Non-trauma focused CBT offers a valid alternative to trauma focused therapy if the latter is poorly tolerated, contraindicated, or unavailable. It is unclear whether specific therapies are more or less effective for particular subgroups or trauma types.^{36 37}

Research on interventions for more complex presentations of PTSD is limited.³⁸ Evidence suggests that phased approaches may be beneficial for more complex presentations of PTSD.³⁹ Phase based approaches target problems such as affect dysregulation, dissociation, and somatic symptoms to promote adaptive coping, a sense of safety, and stabilisation before undertaking any trauma focused intervention.

Self help programmes

Guided self help interventions for depression and anxiety disorders are being used as an alternative to face to face therapy as these interventions offer enhanced access to cost effective treatment.⁴⁰ Some evidence suggests that internet based guided self help therapies effectively alleviate the symptoms of traumatic stress, but randomised controlled trials (RCTs) have historically been limited to subsyndromal populations.^{41 42} More recent evidence supports the efficacy of guided self help for people meeting diagnostic criteria for PTSD,⁴³⁻⁴⁵ but no head to head trials have compared guided self help with trauma focused psychological therapy administered by a therapist.

Drug treatment

NICE and WHO recommend drug treatment second to trauma focused therapy.^{33 46} The effect sizes for drug treatments compared with placebo are inferior to those reported for psychological treatments with a

WHEN TO SUSPECT PTSD

- When patients present with mental or physical symptoms that cannot be fully explained after a traumatic event
- When patients present with characteristic symptoms of PTSD—re-experiencing, avoidance, and hyperarousal
- When patients disclose a history of involvement in a traumatic event
- When patients present with mental or physical symptoms that are difficult to explain in the absence of a disclosed traumatic event

trauma focus over waiting list or treatment as usual controls.^{33 47} Effect sizes with drug treatment are similar to those observed from use of antidepressants for depression compared with placebo.⁴⁸ A recent systematic review and meta-analysis found statistically significant evidence (when at least two RCTs were available) of reduction in severity of PTSD symptoms for four drugs (fluoxetine, paroxetine, sertraline, and venlafaxine) versus placebo.⁴⁷ In single RCTs, amitriptyline, GR205171 (a neurokinin-1 antagonist), mirtazapine, and phenelzine have shown superiority over placebo in reducing the symptoms of PTSD.

In an RCT the α 1 adrenoceptor antagonist prazosin was found to reduce nightmares in veterans with PTSD,⁴⁹ and a further RCT in veterans showed reduction in overall symptom severity.⁵⁰ This suggests a possible role for α 1 adrenoceptor blockers in PTSD, although further research is needed. Olanzapine, in contrast with another antipsychotic, risperidone, has been shown to accentuate the effects of antidepressants when resistance to treatment is encountered.^{51 52}

Combination therapy

There is insufficient evidence to support the use of pharmacotherapy combined with psychological therapy over either treatment method alone.⁵³

How should PTSD and comorbidity be managed?

PTSD is associated with depression, anxiety disorders, and drug and alcohol use disorders. Little evidence exists for the effectiveness of psychological interventions for PTSD with comorbid substance use disorders. Some evidence suggests that trauma focused CBT can be effective with concomitant interventions to stabilise drug or alcohol use, but treatment effects are not as large as for PTSD in the absence of drug or alcohol misuse.⁵⁴

What is the prognosis in PTSD?

Few longitudinal follow-up studies have been done of PTSD, but for many patients PTSD is severe and enduring.⁵ There is, however, good evidence that patients may benefit from treatment even when the symptoms have been present for many years.³⁴

Are there emerging options to prevent and treat PTSD?

Several experimental studies provide hope that better or alternative ways to prevent and treat PTSD are on the way. Simple visuospatial tasks such as playing a computer game shortly after a traumatic experience reduce re-experiencing.⁵⁵ For established PTSD, interest in using drugs to augment psychological therapy is increasing. The results of a recent RCT of the psychedelic 3,4-methylenedioxymethylamphetamine with psychotherapy for treatment resistant PTSD have been promising.^{56 57}

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CASE REVIEW

A rash starting on the palms and soles

A 23 year old man presented with a rash eight weeks after emigrating to the United States. One week after immigration he had a sore throat, dysphagia, and mild subjective fevers, which resolved in 10 days. Two weeks later, he developed a papular eruption starting on his hands and feet. He had no arthralgia, myalgia, or systemic symptoms. He took no drugs, had no allergies, no family history of skin eruptions, and no close contacts with a similar rash.

He was evaluated at an urgent care clinic one week after the eruption started. The rash was mainly on his palms and soles but was spreading to the arms and legs. Blood was sent for antibodies to Rocky Mountain spotted fever (RMSF) and coxsackievirus. Given the life threatening nature of RMSF,

he was treated empirically with seven days of doxycycline without improvement; both tests were negative.

Over the next two weeks the rash spread diffusely, becoming mildly pruritic, and he presented to our institution for evaluation. His vital signs were within normal limits and he had no erythema of the oral mucosa or lymphadenopathy. Hundreds of pink papules with silvery scale measuring 2-3 mm in diameter were noted on his face, palms and dorsal hands, arms, trunk, legs, and feet (figure). Linear lesions in areas of excoriation were seen in the right antecubital fossa.

Anti-streptolysin O and anti-DNase-B titres were both raised (695 IU/mL (reference value <530) and 706 IU/mL (<300), respectively). Skin biopsy of a lesion showed



hyperplasia of the epidermis, neutrophilic microabscess formation, dilated superficial dermal blood vessels, and overlying parakeratotic hyperkeratotic scale.

- 1 What are the differential diagnoses for rashes on the palms and soles?
- 2 What is the diagnosis and what phenomenon do the linear lesions in areas of excoriation demonstrate?

- 3 How does the antecedent pharyngitis relate to the rash?

- 4 How can this condition be treated?

- 5 In patients who present to primary care, what are the referral criteria to dermatology?

Submitted by Vinod E Nambudiri, Navya S Nambudiri, Rosalynn M Nazarian, and Sandy S Tsao

Patient consent obtained.

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CASE SCENARIO

Sister Mary Joseph nodule

A 79 year old woman was referred by her GP because of a 2×2 cm irregular mass at her umbilicus with a discoloured and rough surface. She had associated ascites. A diagnosis of Sister Mary Joseph nodule was made. Investigations confirmed widespread metastases from a primary gynaecological tumour.

Learning points:

- A Sister Mary Joseph nodule is a metastatic umbilical deposit

- The primary tumour is classically one of the stomach, large bowel, or tail of the pancreas, although about 25% are of gynaecological origin
- The proposed route of metastasis is along the remnant structures at the umbilicus
- A Sister Mary Joseph nodule implies the presence of peritoneal metastases and prognosis is poor.

Submitted by Thabo Miller, Jennifer Ashworth, and Sarah Richards

Patient consent obtained.

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We welcome contributions that would help doctors with postgraduate examinations. We also welcome submissions relevant to primary care. See thebmj.com/endgames

A rash starting on the palms and soles

CASE REVIEW

- 1 Infections such as coxsackievirus, syphilis, Rocky Mountain spotted fever, scabies, and tinea; inflammatory dermatoses such as psoriasis, eczema, erythema multiforme, and mycosis fungoides, and drug eruptions.
- 2 The history, clinical presentation, laboratory findings, and histopathology are consistent with a diagnosis of guttate psoriasis. The development of skin lesions in trauma sites is known as the Koebner phenomenon.
- 3 Acute guttate psoriasis has been associated with preceding streptococcal pharyngitis.
- 4 Treatments include topical corticosteroids, topical vitamin D analogues, topical coal tar, and ultraviolet B phototherapy. Prognosis is good—the disease course is limited in most patients, with a minority developing chronic disease or plaque psoriasis.
- 5 Consider referral to dermatology if the diagnosis of an acute eruption is uncertain, there has been no response to initial treatment, or specific treatments administered by dermatologists are being considered.

Loss of fingerprints secondary to palmoplantar erythrodysesthesia in a patient on capecitabine chemotherapy

A 47 year old man on oxaliplatin and capecitabine chemotherapy developed dryness and erythema of the palms of his hands. He noticed he was unable to access his phone using its fingerprint recognition technology function. On examination he had loss of epidermal ridges of the finger pads due to skin shedding (arrow). Palmoplantar erythrodysesthesia (PPE) occurs in 53-57% of patients treated with capecitabine, but the proportion of such patients who lose their

fingerprints is unknown. Detention at US border control of a patient lacking fingerprints due to PPE has been reported. In view of the potential lifestyle impact of this side effect, it may be appropriate to warn patients that severe PPE can cause loss of fingerprints.

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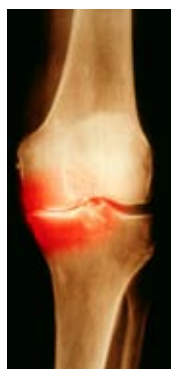


Our drug works well for highly selected Martians

Clinical trials are supposed to inform clinical practice. If they don't, they become ethically questionable. One of the biggest problems is selection bias or lack of external validity—a mismatch between the trial population and real world patients. This is so common that a large literature is dedicated to it, and in a systematic review of 52 studies across a range of specialties, about 70% of studies found evidence of significant and systematic mismatches that make it hard to apply trial findings to typical patient populations (*Trials* 2015;16:495, doi:10.1186/s13063-015-1023-4).

Knee pain and mortality in women

In the late 1980s, more than 1000 London women joined a study to evaluate risk factors for osteoporosis and osteoarthritis. After 23 years of annual follow-up, a clear association has emerged between knee pain (with or without radiographic osteoarthritis) and all cause mortality (*Ann Rheum Dis* 2015, doi:10.1136/annrheumdis-2015-208056). Specifically, cardiovascular mortality was three times that of asymptomatic women. No such associations were found for hand pain and osteoarthritis.



When “normal” serum sodium predicts death

The “normal” serum sodium range on a typical biochemistry results form is 135-145 mmol/L. But when investigators looked at sodium levels in two London hospitals they began to question this range, particularly in inpatients over age

65 (*Postgrad Med J* 2015, doi:10.1136/postgradmedj-2015-133482). Serum levels below 135 mmol/L were common and seem not to be associated with serious harm. But levels above 139 mmol/L were incrementally associated with death during admission—patients with a “normal” serum sodium level of 145 mmol/L on admission have a 3.7 times higher risk of in-hospital death than those with a level of 140 mmol/L.

Asthma attacks and blood eosinophils

Hundreds of millions of full blood counts lie stored in patients' electronic records, and an international team of asthma researchers hatched a cunning plan to mine them for clues about the predictive value of blood eosinophil counts and asthma events (*Lancet Respir Med* 2015;3:849-58, doi:10.1016/S2213-2600(15)00367-7). The study confirmed an association between eosinophil counts $>400 \times 10^6$ cells/L and severe asthma exacerbations, greater use of relievers and oral corticosteroids, and asthma related hospital encounters.

Post-heart attack forgetfulness?

Everyone who leaves hospital after acute myocardial infarction carries a bag of drugs to reduce the chance of another one. But rather than having been shocked into compliance, these patients show a shockingly low rate of prescription renewal. A study from British Columbia (*Circ Cardiovasc Qual Outcomes* 2015, doi:10.1161/CIRCOUTCOMES.115.001987) found that one year after discharge only a third of survivors had filled all appropriate prescriptions for at least 80% of the year. Younger women—a high risk group—had the worst continuation rate.

Dexamethasone before radiotherapy cuts bone pain

Treating the pain of bone metastases with palliative radiotherapy can cause a flare-up of pain. Canadian researchers compared the effect of dexamethasone versus placebo when given orally immediately before palliative radiotherapy and for four days after (*Lancet Oncol* 2015;16:1463-72, doi:10.1016/S1470-2045(15)00199-0). It had a modest effect: 26% of the dexamethasone group experienced a flare compared with 35% of the placebo group.

Buzz off you nits

From the splendid Liceworld website (www.liceworld.com/uk/taettekammens_historie.htm), you will learn that the oldest fine tooth comb for head lice was made of bone in the Natufian period (9500-12 500 BC) and is virtually identical to a modern nit comb. But this ancient design may be taking a new turn for the deadlier, thanks to a cooperative research project within the sixth framework programme of the European Commission, our continental bulwark in the fight against *Pediculus humanus capitis*. It has developed a compact battery operated metal nit comb capable of delivering ultrasonic waves to shake the eggs from their hairy homes (*J Med Entomol* 2015, doi:10.1093/jme/tjv176). Whether it works remains “to be described in a separate report.”

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