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Personality disorder

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Cite this as: *BMJ* 2013;347:f5276
doi: 10.1136/bmj.f5276

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Most non-psychiatrists are aware of the diagnosis of personality disorder but rarely make it with confidence. In the past, this diagnosis came with a tacit admission that not much can be done, but there is now increasing evidence that treatment can be effective. Epidemiological studies show that 4-12% of the adult population have a formal diagnosis of personality disorder; if milder degrees of personality difficulty are taken into account this is much higher.[1] People carry the label of personality disorder with them, and this can influence their care when they come into contact with services, including mental health providers. GPs also carry the clinical responsibility for their patients with personality disorder, and this can be challenging over the long term. This article aims to review the current evidence for the diagnosis and treatment of personality disorder.

What is personality disorder?

The exact definition of personality disorder is open to debate and differs between the two main diagnostic systems used for mental health problems, ICD (International Classification of Diseases) and DSM (*Diagnostic and Statistical Manual of Mental Disorders*). Temperamental differences between children can be seen from a very young age and probably have a large inherited component. "Personality" refers to the pattern of thoughts, feelings, and behaviour that makes each of us the individuals that we are. This is flexible and our behaviour differs according to the social situations in which we find ourselves.

People with personality disorder seem to have a persistent pervasive abnormality in social relationships and social functioning in general.[2] More specifically, there seems to be an enduring pattern of perceiving, relating to, and thinking about the outside world and the self that is inflexible, deviates markedly from cultural expectations, and is exhibited in a wide range of social and personal contexts. People with personality disorder have a more limited range of emotions, attitudes, and behaviours with which to cope with the stresses of everyday life.

SUMMARY POINTS

People with personality disorder have a persistent pervasive abnormality in social relationships and functioning

Personality disorder is associated with high service use and excess medical morbidity and mortality

Diagnosis of personality disorder along a single dimension of severity is a major change from traditional categorical approaches

Depression, anxiety, substance use, suicidal behaviour, and suicide are all more common in these patients; comorbid mental health problems are more difficult to treat and have poorer outcomes

General principles of management include consistency, reliability, encouraging autonomy, and the sensitive management of change

Specialist treatments with evidence of effectiveness in borderline personality disorder include dialectical behaviour therapy, mentalisation based treatment, transference focused therapy, cognitive analytic therapy, and schema focused therapy

SOURCES AND SELECTION CRITERIA

We searched Medline, the Cochrane Database of Systematic Reviews, Clinical Evidence, and the database of the Centre for Reviews and Dissemination using the search term "personality disorder". We focused mainly on systematic reviews, meta-analyses, high quality observational studies, and randomised controlled trials published in the past five years. We also consulted our own reference archives and expert contacts.

Personality disorder is viewed as different from mental illness because it is more persistent throughout adult life, whereas mental illness results from a morbid process of some kind and has a more recognisable onset and time course.[3] A cohort study found good rates of remission in people with borderline personality disorder (78-99% at 16 year follow-up), but remission took longer to occur than in people with other personality disorders and recurrence was more common.[4] Evidence from two randomised controlled trials also suggests that most people with this disorder will show persistent impairment of social functioning even after specialist treatment.[5,6]

Why is personality disorder important?

People with personality disorders experience considerable distress, suffering, and stigma. They can also cause distress to others around them.

Epidemiological research has shown that comorbid mental health problems, such as depression, anxiety, and substance misuse, are more common in people with personality disorder,[7] are more difficult to treat, and have worse outcomes. One systematic review found that in depression, personality disorder is an important risk factor for chronicity.[8] Two recent narrative reviews of the epidemiological literature concluded that personality disorder is also associated with higher use of medical services, suicidal behaviour and completed suicide, and excess medical morbidity and mortality, especially in relation to cardiovascular disease.[9,10] One systematic review found an association with violent behaviour.[11]

How is personality disorder diagnosed?

The two major diagnostic systems in psychiatry have taken very different views on how to revise their classification of personality disorder. There has been growing criticism of a purely categorical approach that requires a decision as to whether a person meets criteria for paranoid, borderline, or antisocial personality disorder. Considerable overlap exists between categories, which do not take into account the wide variation in impairment seen in everyday practice, and reinforce the stigma associated with the diagnosis. There has been debate about whether a dimensional approach using scores for personality traits or applying a simple measure of severity of disorder would be an improvement. The recently

DSM-5	Latest information on proposals for ICD-11
Definition: An enduring pattern of inner experience and behaviour that deviates markedly from the expectations of the individual's culture. This pattern is manifested in two (or more) of the following areas: 1. Cognition (ways of perceiving and interpreting self, other people, and events) 2. Affectivity (range, intensity, lability, and appropriateness of emotional response) 3. Interpersonal functioning 4. Impulse control B. The enduring pattern is inflexible and pervasive across a broad range of personal and social situations C. The enduring pattern leads to clinically significant distress or impairment in social, occupational, or other important areas of functioning D. The pattern is stable and of long duration, and its onset can be traced back at least to adolescence or early adulthood E. The enduring pattern is not better accounted for as a manifestation or consequence of another mental disorder. F. The enduring pattern is not due to the direct physiological effects of a substance (such as drug misuse or a medication) or a general medical condition (such as head trauma) DSM-5 has retained the 10 categories of personality disorder that are briefly summarised below: **Cluster A personality disorders (odd or eccentric disorders) Paranoid personality disorder:** by nature patients will experiencea distrust of others as well as irrational suspicions **Schizoid personality disorder:** defined by a disinterest in engaging in social relationships and spending time with others. Patients are often unable to find pleasure in enjoyable activities and will spend time contemplating their own mental and emotional state **Schizotypal personality disorder:** typical characteristics include odd behaviour or thinking **Cluster B personality disorders (dramatic, emotional, or erratic disorders) Antisocial personality disorder:** characterised by an ignorance of the entitlements of others, the absence of empathy, and (generally) a pattern of consistent criminal activity **Borderline personality disorder:** unstable and intense interpersonal relationships, self perception, and moods. These feelings can lead to both self harm and impulsive behaviour **Histrionic personality disorder:** attention seeking behaviour that often includes inappropriate seductive conduct and superficial or inflated emotions **Narcissistic personality disorder:** characterised by the consistent need for praise and admiration and a belief that they are special and "entitled." Extreme jealousy, arrogance, and a lack of empathy are also usually present **Cluster C personality disorders (anxious or fearful disorders) Avoidant personality disorder:** patients commonly feel socially inhibited and inadequate and are extremely sensitive to any form of criticism or evaluation that may be interpreted as negative **Dependent personality disorder:** an extreme psychological dependence on others **Obsessive-compulsive personality disorder:** this is not the same as obsessive-compulsive disorder, and is characterised by conforming to rules and moral codes on a severe and unyielding basis. Excessive orderliness is also usually present	**Is personality disturbance present?** There is a long term pattern of poor interpersonal functioning (a pattern of general impairment in human relationships that prevents mutual understanding) and relationships with others. This can occur at any age, is not part of any other mental disorder, and leads to at least some degree of impairment or distress to self or others **If so, what is the level of severity?** **Personality difficulty:** The problems created by the personality features are closely linked to setting and are only present in some situations In other settings, interpersonal and social functioning is adequate or good. When personality disturbance is present, it may cause distress but does not pose any risk to self or others **Personality disorder:** The problems created by the personality features are well circumscribed but are present all the time and are largely independent of situation. The patient shows a persistent lack of mutual understanding that impairs most relationships. There are continuous difficulties in interpersonal and social functioning, and these may distress the patient but also create problems for others. Occasionally, this may lead to some risk to self or others **Complex personality disorder:** The problems created by the personality disturbance are widespread and affect many different domains of personality. These may fluctuate in terms of behaviour, but they are present in some form continuously and are largely independent of situation. There are persistent difficulties in interpersonal and social functioning, and these may distress the patient but also create problems for others. The lack of mutual understanding leads to overt conflict with others and prevents adjustment at work and at leisure. Occasionally, this may lead to some risk to self or others **Severe personality disorder:** The problems created by the personality disturbance are the same as for complex personality disorder, but in addition the manifestations of the personality disturbance are so disturbing or threatening that they lead to a serious risk to self or others. Action of some sort is necessary if the risk is to be reduced or offset **How can it be described? (more than one may apply especially in severe personality disorder)Four domains are currently proposed:** **Detached:** social indifference and impaired capacity to experience pleasure. Traits include aloofness, reduced expression of emotions **Dissocial:** Disregard for social obligations and conventions and the rights of others. "Psychopathy" falls within this domain **Anankastic:** concern over the control and regulation of behaviour. Traits include perfectionism, constraint, stubbornness **Emotional distress or negative emotional:** sensitivity to scrutiny by others, self consciousness, vigilance, fearfulness, pessimism, and emotional dysregulation Description, for example, of someone with borderline personality disorder with a high degree of hostility and punitiveness: General title: Personality disorder Secondary title: Severe personality disorder Full title with domain trait: severe personality change with dissocial and emotional domain traits

Summary of differences between *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition (DSM-5) and latest available information about international classification of diseases, 11th revision (ICD-11) for diagnosis of personality disorder

published fifth edition of DSM (DSM-5) has left the previous categorical classification unchanged,[12] although an alternative, more complex, classification that was rejected before publication is also included in a later section. The eleventh revision of ICD (ICD-11) is still in preparation,[13] but recent publications propose a dimensional approach using five levels of severity. A criticism of this approach has been that the diagnosis of borderline personality disorder, which has considerable clinical utility, is lost. The diagnosis is in some sense a misnomer because the primary category to which the condition was thought to be borderline was schizophrenia, and this is no longer the case. However, it is still possible to describe borderline personality disorder using a combination of traits (figure).

Controversy remains about diagnosing personality disorder in adolescence, not least because of the current pejorative nature of the diagnosis. Referral to a specialist is recommended for suspected cases.

What do we know about the causes of personality disorder?

As with other mental health problems, personality disorders are probably the result of multiple interacting genetic and environmental factors. There is growing evidence for a genetic link, with results from twin studies suggesting heritability of personality traits and personality disorders ranging from 30% to 60%.[14] A narrative review of epidemiological studies also suggests that family and early childhood experiences are important, including experiencing abuse (emotional, physical, and sexual), neglect, and bullying.[10]

How is personality disorder managed and treated?

Across the range of personality disorders, there is still little evidence for what treatments are helpful. An exception to this is borderline personality disorder, for which there is now a growing evidence base, and (to a lesser extent) antisocial personality disorder. National Institute for Health and Care Excellence (NICE) guidelines have now been produced for both of these.[15] Unusually for people with personality disorder, those with a borderline diagnosis tend to seek treatment, whereas those with antisocial personality disorder and other categories tend to be reluctant to commit to treatment. In view of the prevailing evidence, we will focus this section on the general management and specific treatment of these two categories.

What are the basic principles of managing personality disorders?

When working with people with all types of personality disorder, it is important to explore treatment options in an atmosphere of hope and optimism, building a trusting relationship with an open non-judgmental manner. Services should be accessible, consistent, and reliable, bearing in mind that many people will have had previous experiences of trauma and abuse. Consideration should be given to working in partnership, helping people to develop autonomy, and encouraging those in treatment to be actively involved in finding solutions to their problems.

Managing borderline personality disorder

Consider borderline personality disorder in a person presenting to primary care who has repeatedly self harmed

Psychological treatments with the current best evidence for borderline personality disorder

Dialectical behaviour therapy

Developed as a modified version of cognitive behavioural therapy, it also incorporates the concept of "mindfulness" drawn from Buddhist philosophy. The treatment focuses on emotional regulation, distress tolerance, and interpersonal effectiveness through individual therapy, group skills training, and telephone coaching.

Mentalisation based treatment

An adaption of psychodynamic psychotherapy grounded in attachment theory, which emphasises improving patients' ability to "mentalise"—that is, to understand their own and other people's mental states and intentions. The treatment is delivered in a twice weekly individual and group therapy format or as part of daily attendance at a treatment centre.

Transference focused therapy

A form of psychodynamic psychotherapy derived from Otto Kernberg's theory of object relations, which describes contradictory internalised representations of self and others. It focuses intensely on the therapy relationship and is delivered as twice weekly individual sessions aimed at the integration of split off aspects of the personality.

Cognitive analytic therapy

Brief focused therapy that integrates ideas from psychoanalytic object relations theory and cognitive behavioural therapy. A collaborative therapy that uses diagrams and letters to help people to recognise and revise confusing patterns and mental states, it is delivered individually over 24 weeks with follow-ups.

Schema focused therapy

A development of cognitive behaviour therapy founded by Jeffrey Young, which blends elements of Gestalt therapy, object relations, and constructivist therapies. It identifies and modifies dysfunctional patterns (schemata) made up of patients' memories, feelings, and thoughts about themselves and others. It is usually delivered as once or twice weekly individual therapy.

and shown persistent risk taking behaviour or marked emotional instability. Primary care doctors should aim to help manage patients' anxiety by enhancing coping skills and helping patients to focus on the current problems. Techniques for doing this include looking at what has worked in the past, helping patients to identify manageable changes that will enable them to deal with the current problems, and offering follow-up appointments at agreed times. When a patient with borderline personality disorder presents to primary care in crisis, it is important to assess the current level of risk to self and others.

People with this disorder require special attention when managing transitions (including changes to and endings of treatment) given the likelihood of intense emotional reactions to any perceived rejection or abandonment.

Referral to specialist mental health services can be useful to establish a diagnosis. Also consider referral when a patient with this disorder is in crisis, when levels of distress and risk of self harm or harm to others are increasing.

Specialist treatment

The past 20 years have seen increased emphasis on understanding the underlying problems, symptoms, and states of mind of people with borderline personality disorder and an accompanying development of specific treatments to target them (box).

Dialectical behaviour therapy is a modified version of cognitive behavioural therapy that also uses the concept of "mindfulness" drawn from Buddhist philosophy. Several randomised controlled trials focusing mainly on women who repeatedly self harm have shown reductions in anger, self harm, and attempts at suicide.[16]

People with borderline personality disorder are less able than the general population to "mentalise;" that is, to understand their own and other people's mental states and intentions. Randomised controlled trials of mentalisation based treatment, which focuses on improving mentalising capacity, have shown reduced suicidal behaviour and hospital admissions, as well as an improvement in associated symptoms.[6 17] Other therapies, all with trial evidence of effectiveness in reducing borderline symptoms are schema focused therapy,[18 19] transference focused therapy,[20] and cognitive analytic therapy.[21] In addition to improving core symptoms, schema focused therapy improved psychological functioning and quality of life; transference focused therapy improved psychosocial functioning and reduced inpatient admissions; and cognitive analytic therapy improved interpersonal functioning and overall wellbeing and led to a reduction in dissociation (splitting of the personality).

A systematic review of randomised trials identified two other treatments with evidence of effectiveness in this group of patients. The first, problem solving for borderline personality disorder, is an integrated treatment that combines cognitive behavioural elements, skills training, and intervention with family members. It can reduce borderline symptoms and improve impulsivity—the tendency to experience negative emotions and global functioning.[22] The second, manual assisted cognitive treatment, aimed at reducing deliberate self harm, was successful in a study of patients with borderline personality disorder who self harm.[23]

Effective management and care coordination

Specialist treatments are not generally available in the community, and it may be difficult to motivate people struggling with chaotic lifestyles and unstable support systems to engage with them. Evidence is emerging that well structured general psychiatric management can be as effective as branded specialised treatments when delivered under research conditions.[5] In this randomised trial, general psychiatric management involved case management and weekly individual sessions using a psychodynamic approach that focused on relationships and management of symptom targeted drugs.

A PATIENT'S PERSPECTIVE

Before therapy I just did not know what was going on in my head. One thing always seemed to affect another: the inability to hold down a job, getting into debt, relationship problems, constantly blaming others, and wondering what the hell was wrong with me.

My GP was becoming concerned and I willingly accepted a referral to the local psychotherapy department. When I was told that I probably had borderline personality disorder and that a service was available for people with this disorder it was an enormous relief.

The therapy has been ongoing and has enabled me to feel safe and contained within it. This has helped me to be more open with my therapist and to make sense of my difficult childhood and adolescence and how this has affected my present condition.

The things that create a better life for people are jobs, relationships, and security. However, for people with personality disorder these are the very situations that can often trigger symptoms. Therapy can show different directions: one you have always known and another way. New ways, however, can also bring new problems.

It makes me aware that I need to be kind to myself and that healing is an ongoing process.

TIPS FOR NON-SPECIALISTS

Consider personality disorder in people who are difficult to engage and do not respond to treatment—for example, those who do not respond to treatment for depression

Try to maintain a consistent and non-judgmental approach even when "under fire" from a person who is emotionally aroused or wound up

It is more important to recognise the general problem of an enduring pattern of difficulty in a wide variety of social contexts, and a limited repertoire of coping skills, than to diagnose a particular subtype of personality disorder

Make plans for crisis management, especially recurrent crises, such as repeated self harm or threats of self harm

Explore possible therapeutic avenues with specialist care; don't let the label be a reason for not referring

QUESTIONS FOR FUTURE RESEARCH

Can early intervention in childhood reduce the risk of developing personality disorders?

Can we reliably and usefully screen for personality disorder in primary care?

Would implementation of action plans for crisis management in primary care make a difference?

How can we improve access to psychological therapy for people with personality disorder?

What is the optimal length of time that psychological therapy for personality disorder should last?

Can we reliably and effectively implement general psychiatric management more widely in mental healthcare for people with borderline personality disorder?

Can we develop more useful generic guidelines for personality disorder?

Will application of a dimensional approach to diagnosis (as in International Classification of Diseases, eleventh revision) change attitudes to the diagnosis of personality disorder?

ADDITIONAL EDUCATIONAL RESOURCES

Resources for healthcare professionals

National Institute for Health and Care Excellence guidance for borderline and antisocial personality disorders:

http://guidance.nice.org.uk/CG78

www.nice.org.uk/CG77

Personality Disorders (www.personalitydisorder.org.uk/)—Resources from the national personality disorder programme, which supported improvements in the treatment of personality disorders across the health and social care workforce

Balint Society (http://balint.co.uk/)—Membership of the Balint group provides a space to think about those encounters that leave health professionals feeling drained, puzzled, or stuck

Resources for patients and service users

MIND (www.mind.org.uk/mental_health_a-z/8028_personality_disorders)—Free leaflet on personality disorders, with tips on self help

Royal College of Psychiatrists (www.rcpsych.ac.uk/expertadvice/problemsdisorders/personalitydisorder aspx)—Free leaflet with advice for patients, families, and friends

Emergence (www.emergenceplus.org.uk)—Useful information for service users, carers, and professionals (need to register)

Good care coordination within a community mental health setting is key to stabilising patients, some of whom may later receive more specialist interventions. Indeed, the type of therapy may not be important, but rather that management is consistent, reliable, encourages autonomy, and is sensitive to change. Management should be systematic and preferably manualised (guided by a "manual" for the therapist with a series of prescribed goals and techniques to be used during each session or phase of treatment) to provide a clear model for patient and therapist to work with. This helps the mental health professional to deal with common clinical problems, such as self harm and risk of suicide, by talking with the patient about any precipitants to unmanageable feelings, giving basic psychoeducation about managing mood states, and encouraging problem solving and the sharing of risk and responsibility. In addition, close attention should be paid to any emerging problems in the therapeutic alliance.[24]

Are there any drug treatments available for borderline personality disorder?

There is no clear evidence for the efficacy of drugs for the core borderline symptoms of chronic feelings of emptiness, identity disturbance, and abandonment. Some randomised trials have shown benefits with second generation antipsychotics, mood stabilisers, and dietary supplements of omega-3 fatty acids,[25] but these are mostly based on single studies with small sample sizes and are not recommended by NICE.[15] Antidepressants may be helpful only in the presence of coexisting depression or anxiety.

Managing antisocial personality disorder

The treatment of people with antisocial personality disorder will be facilitated by working within a clearly described care pathway because a diverse range of services are often be involved. The pathways should specify likely helpful interventions at each point and should enable effective communication between clinicians and organisations. Locally agreed criteria should be established to facilitate transfer between services with shared objectives and a comprehensive assessment of risk. Services should consider establishing multiagency antisocial personality disorder networks that actively involve service users. Once established, they can play a central role in training, the provision of support and supervision to staff, and the development and maintenance of standards.[15]

Although it may not be appropriate or possible to provide specific therapeutic interventions for antisocial personality disorder in primary care, GPs still need to offer treatment for patients with comorbid disorders in line with standard care. In doing so, GPs should be aware that the risk of poor adherence, misuse of drugs, and drug interactions with alcohol and illicit drugs is increased in this group. It may be helpful to liaise closely with other agencies involved in the care of these patients, including the criminal justice system and drug support workers. Local schemes are available in primary care in the UK for the management of patients who have been violent or threatening towards their GPs or other primary care staff. Assessment of risk in primary care should include history of violence, its severity, and precipitants; the presence of comorbid mental disorders; use of alcohol and illicit drugs and the potential for drug interactions; misuse of prescribed drugs; current life stressors; and accounts from families or carers if available.

Specialist treatments

Robust evidence for the effectiveness of specific psychological interventions in antisocial personality disorder is currently lacking.[26] However, NICE guidelines suggest the

use of group based cognitive and behavioural interventions that focus on the reduction of offending and other antisocial behaviour.[15] Particular care is needed in assessing the level of risk and adjusting the duration of programmes accordingly. Participants will need to be supported and encouraged to attend and complete programmes. People with dangerous and severe personality disorder will often come through the criminal justice system and will require forensic psychiatry services. Treatments (including anger management and violence reduction programmes) will essentially be the same as above but will last longer. Staff involved in such programmes will require close support and supervision.

Are there any drug treatments available for antisocial personality disorder?

No specific drugs are recommended for the core symptoms and behaviours of antisocial personality disorder (including aggression, anger, and impulsivity).[27] Drugs may be considered for the treatment of comorbid disorders.

Other treatments

Therapeutic communities, which provide a longer term, group based, and often residential approach to therapy, have a long history in the treatment of personality disorder, but there is no evidence for their effectiveness. In the UK, the Department of Health set up pilot projects for management of personality disorder in 2004-05. One of these, the Service User Network model, offers community based open access support groups for people with personality disorder, with service users engaged in the design and delivery of the service.[28] Analysis of routine data, together with a cross sectional survey, showed that the service attracted a large number of people with serious health and social problems and that use of the service was associated with improved social functioning and reduced use of other services. Nidotherapy (nest therapy) is a new treatment approach for people with mental illness and personality disorder, which involves manipulation of the environment to create a better fit between the person and his or her surroundings, rather than trying to change a person's symptoms or behaviour. Evidence from a systematic review in which only one study met inclusion criteria showed an improvement in social functioning and engagement with non-inpatient services.[29]

What are the problems in everyday practice?

Personality disorder affects the doctor-patient relationship. Misunderstandings and even angry reactions are not uncommon and consistency, clarity, and forward planning are all important in managing the relationship. The diagnosis of personality disorder should never be given to a patient whom the doctor simply finds "difficult." There is evidence of a disparity between a formal diagnosis of personality disorder achieved using a research interview and the diagnoses made by GPs.[30] However, it is important to be aware that a diagnosis of comorbid personality disorder is a possibility in patients who do not respond to treatment or seem particularly difficult to manage. A simple eight item screening interview (standardised assessment of personality: abbreviated scale) is useful in this respect.[31] It is useful to have clear management plans in place to deal with recurring patterns of crisis, with agreement between GP, specialist mental healthcare, and the service user about potential options for managing likely problems, possible sources of support and advice, and when to urgently refer to specialist care.

Efforts need to be made to challenge stigma and unhelpful attitudes of healthcare professionals,[32] develop professional skills in understanding and managing difficult encounters with challenging patients,[33 34] and promote engagement in psychological therapy if it is likely to be helpful. However, people with comorbid substance misuse may face problems in accessing psychological therapies (some services do not offer them to these people), specialist therapies may not be locally available, and barriers persist in accessing mental healthcare for people with personality disorder in the UK despite policy guidance to the contrary.[35]

No patient should be excluded from mental health services because he or she has a personality disorder, nor should the incorrect notion that personality disorder is all pervasive and immutable be used to deny people access to valuable therapeutic interventions.

Contributors: LG is the lead author and responsible for overall content as guarantor. ME and DK both contributed to the writing of the paper and approved the final version.

Competing interests: None declared.

Provenance and peer review: Commissioned; externally peer reviewed.

References are in the version on bmj.com.

ANSWERS TO ENDGAMES, p 38

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PICTURE QUIZ A footballer's finger injury

1. The radiographs show a displaced transphyseal fracture of the terminal phalanx of the left middle finger.
2. It would be classified as a Salter Harris type II fracture (the fracture line is through the physis and it extends out through the metaphysis).
3. It is important to recognise that this is an open fracture that needs reduction. The patient should be covered for tetanus and given antibiotics to protect against possible infection. After thorough washout and debridement, the finger should be manipulated under anaesthesia to reduce the fracture. It should then be stabilised by K wiring, followed by repair of the nail bed.
4. Infection, delayed union (sometimes because of infection, but often owing to sterile matrix interposition), and malunion.

ANATOMY QUIZ

Cranial ultrasonography of a term infant

A: Genu of corpus callosum
B: Septum pellucidum
C: Pons
D: Fourth ventricle
E: Cerebellum
F: Occipital lobe

STATISTICAL QUESTION

What is a superiority trial?

Statement *c* is true, while *a* and *b* are false.