



Hydration in the elderly in residential care: Texts

Text A

Risk factors for dehydration in the elderly

Older people are vulnerable to dehydration due to physiological changes in the ageing process, but this can be complicated by many disease states, and mental and physical frailty.

Age-related changes include a reduced sensation of thirst, and this may be more pronounced in those with Alzheimer's disease or in those that have had a stroke. Thirst in older people may not be relied on as an indicator of dehydration.

Reduced renal function is also a risk factor. Difficulties with swallowing, dementia and poorly controlled diabetes are more common in older people and are all associated with poor hydration.

The likelihood of dehydration may also be exacerbated by medications including diuretics. Incontinence predisposes people to dehydration as they may limit their fluid intake.

Poor oral intake of fluids can be related to the inability to feed independently and having poor availability and access to fluids. This can be exacerbated in the residential care setting by inadequate staff training and lack of awareness of the importance of keeping residents well hydrated.

Text B

Hydration assessment

On admission and at any time if there is a change in the resident's condition or symptoms of dehydration, conduct an assessment including:

- medical history
- current medications
- cognitive status
- continence status
- the resident's usual hydration habits and current fluid intake patterns, functional ability and requirements for aids such as straws or 'special' cups

Conduct a physical examination that includes:

- lying/standing blood pressure (low BP and/or postural hypotension may be an indicator of dehydration), temperature, pulse rate, respiration rate, capillary refill rate
- calculating the resident's BMI (body mass index)
- monitoring fluid input and urine output over 24-hour period (normal output should be >700mL)
- urinalysis (colour, specific gravity) (dehydration is indicated when the creatinine ratio is greater than 25 and/or sodium concentrate 148 mmol/L)
- identifying observable symptoms of dehydration:
 - dry oral mucosa and tongue
 - loss of skin turgor (elasticity): check by grasping skin on the back of the hand between two fingers so that it is tented up - skin with poor turgor takes time to return to its normal position
 - sunken eyes
 - muscle weakness and/or increased physical frailty
 - constipation and/or small amounts of dark, concentrated urine
 - change in mental status (confusion, disorientation, altered consciousness, headache) and drowsiness



Text C

Recommended fluid intake for adults in residential care (Litres per day)

Height:	150 cm	160 cm	170 cm	180 cm	190 cm
Weight:					
40 kg	1.5	1.6	1.7	1.8	1.9
50 kg	1.6	1.8	1.9	2.0	2.1
60 kg	1.7	1.9	2.0	2.1	2.2
70 kg	1.9	2.0	2.1	2.3	2.4
80 kg	2.0	2.2	2.3	2.4	2.5
90 kg	2.1	2.3	2.4	2.5	2.6
100 kg	2.2	2.4	2.5	2.6	2.7

Text D

Managing hydration in the residential care context

Staff knowledge and education:

- Causes of dehydration in older people
- Maintaining adequate hydration
- Signs and symptoms of dehydration
- Fluid volumes of drinking vessels

If a resident is assessed as dehydrated:

- Establish severity of dehydration
- Review the daily intake goal, increasing oral fluids as tolerated
- Involve the resident to identify their preferred fluids and intake patterns
- Document and monitor the resident's fluid intake and output
- Refer to a GP to consider blood tests and withholding certain medications
- Monitor symptoms by repeating assessment
 - daily if there is no or only marginal improvement in fluid intake
 - in seven days if the daily intake goal is being achieved

When symptoms are relieved, monitor the resident for symptoms of overhydration:

- unexplained weight gain
- peripheral oedema
- distention of neck veins
- shortness of breath



Part A

TIME: 15 minutes

- Look at the four texts, **A-D**, in the separate **Text Booklet**.
 - For each question, **1-20**, look through the texts, **A-D**, to find the relevant information.
 - Write your answers in the spaces provided in this **Question Paper**.
 - Answer all the questions within the 15-minute time limit.
 - Your answers should **only** be taken from texts **A-D** and must be correctly spelt.
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Hydration in the elderly in residential care

Questions 1-7

For each question, **1-7**, decide which text (**A**, **B**, **C** or **D**) the information comes from. You may use any letter more than once.

In which text can you find information about

- 1 how to determine whether a patient is suffering from dehydration? _____
- 2 the amount that patients should drink over a 24-hour period? _____
- 3 information to obtain when an individual enters residential care? _____
- 4 how to deal with a case of dehydration? _____
- 5 the correlation between body size and fluid intake? _____
- 6 indications that a patient may have consumed too much liquid? _____
- 7 conditions which increase the likelihood of dehydration? _____

Questions 8-14

Answer the following questions, **8-14**, with a word or short phrase from one of the texts. Each answer may include words, numbers or both.

- 8 What is the minimum volume of urine which a healthy patient should produce per day?

- 9 Which part of the body should be observed when assessing a patient's level of skin elasticity?

- 10 Which illness may affect patient's ability to judge when they are thirsty?



11 What condition may make patients reluctant to drink enough fluids?

12 What analyses might a doctor recommend for a patient diagnosed with dehydration?

13 If the daily intake goal is on target, how long should you wait before reassessing the patient?

14 How much fluid should a 190cm man who weighs 70 kg drink each day?

Questions 15-20

Complete each of the sentences, **15-20**, with a word or short phrase from one of the texts. Each answer may include words, numbers or both.

15 Patients who have problems _____ may be at risk of dehydration.

16 Urinalysis results showing high levels of sodium or an elevated _____ are a sign of dehydration.

17 A patient who is overhydrated may have distended _____.

18 If the _____ and mucous membrane lining of the mouth are dry, this could be an indication of dehydration.

19 An increase in _____ is a possible sign of overhydration.

20 Staff should check whether a resident needs to use _____ or adapted drinking vessels.

END OF PART A

THIS QUESTION PAPER WILL BE COLLECTED



Part B

In this part of the test, there are six short extracts relating to the work of health professionals. For **questions 1-6**, choose the answer (**A**, **B** or **C**) which you think fits best according to the text.

1. What is the memo doing?

- A reminding staff of their obligations
- B issuing a warning to non-compliant staff
- C presenting new guidelines for staff to follow

Memo
To: All staff
Re: Bare Below the Elbow policy
Hand hygiene remains the single, most effective means of preventing the transmission of healthcare associated infections. The hospital ensures that the Bare Below the Elbow policy is clearly defined and is widely available to all staff, at all levels and in all disciplines. Staff must make effective hand hygiene possible by ensuring full compliance with the Bare Below the Elbow policy. Uniforms and work wear must not impede effective hand hygiene and should not come into contact with patients during direct patient care activity. All staff must adopt the policy whenever they are engaged in a direct patient care activity.



2. The notice warns staff not to
- (A) rely on information held on record without checking its accuracy.
 - (B) order blood products before submitting the necessary samples.
 - (C) collect both of the required blood samples at the same time.

Staff notice: Confirming a patient's blood group prior to transfusion

Guidelines on pre-transfusion compatibility procedures require that, prior to issue of blood/blood products, at least two samples have been received in order to confirm the patient's blood group. Many patients already have historical groups on the Local Information Management System (LIMS) and only one further sample is therefore required. Where no historical group is available, two samples are required that have been collected on separate occasions with the patient being fully identified on each occasion. The hospital does not currently recommend a set period of time between collection of these samples. Where it is suspected that the samples have been collected simultaneously, for example where the date of collection is the same on both, they will be treated as one sample and one will be discarded.

3. The instructions for sending materials to the laboratory emphasise the importance of

- (A) clearly identifying the contents of any packages.
- (B) ensuring that materials cannot leak from packages.
- (C) storing packages of samples in an appropriate place.

County Pathology Laboratory user guide

All samples coming to the laboratory must be packaged to a high standard of containment and in such a way as to contain the contents in the event of a breakage if they are roughly handled or dropped. Pathology samples may contain infectious material and should be treated with care.

Samples should be transported in a suitable transport container, designed for the purpose, with sufficient absorbent material to absorb the entire liquid content. This should be placed in a zip lock bag. The request form should be placed in a separate pouch.

Samples being taken by hand to the laboratory should be placed in a transparent transport box (to allow examination prior to opening), with the lid securely sealed.



4. The email reminds midwives that

- (A) they must put patient welfare above the wish to maintain good working relationships.
- (B) they can refer a patient to a senior member of staff directly if they feel it is necessary.
- (C) they should speak to the Labour Ward Co-ordinator if they are unhappy with the actions of junior staff.

To:

All midwives

Subject:

Patient referral

Please read the following:

Any midwife can refer a patient in their care to an obstetric consultant at any stage of intrapartum care if they have concerns for the welfare of the patient or her unborn baby. Referral is generally done via the Labour Ward Co-ordinator (LWC). However, the midwife may wish to refer directly if the LWC is not immediately available, or if the midwife feels that the LWC and/or junior medical staff have failed to respond appropriately to an emergency. In such circumstances, and in order to maintain good working relationships, the LWC should be informed of the referral as soon as possible, and an explanation presented to the team member in question. Any decisions between professionals should be open and honest and all actions taken should be for the welfare and safety of the patient and her unborn baby.



5. When is it unnecessary to report a suspected ADR?

- A where the patient's health record reveals a known allergy
- B in the case of a non-serious reaction to an established vaccine
- C if documentation shows the authorities have already been informed

Immunisation policy - Adverse Reaction Reporting

The Medicines and Healthcare products Regulations Agency (MHRA) encourages reporting of suspected adverse drug reactions (ADRs) even if there is uncertainty as to whether the vaccine or drug played a causal role. The Yellow Card scheme should be used for reporting. Any ADR that is suspected to be linked to an established vaccine should only be reported to the authorities if it is a serious ADR. For newly licensed vaccines labelled with a black triangle, ALL suspected adverse reactions should be reported. Any adverse reactions should also be documented in the patient's health record.

6. This extract from a training manual addresses the fact that some patients will

- A want a limited amount of detail about the recommended treatment.
- B look for information about treatment from sources outside of the hospital.
- C ask for assurances about treatment that the medical professional cannot give.

Discussing treatments with patients

Before a patient can consent to a particular treatment, investigation or procedure, they need information about what will happen, how long they will be in hospital, how they will feel afterwards and so on.

Patients and those close to them will vary in how much information they want: from those who wish to know as much as possible, including discussion of rare risks, to those who ask health professionals to make decisions for them. There will always be an element of clinical judgement in determining what information should be given. However, the presumption must be that the patient wishes to be well informed about the risks and benefits of the various options.

All information given should be documented. Sources of patient information include consultants, specialist nurses, specialist clinics and Patient Information Leaflets. Patient Information Leaflets are available within each speciality.



Part C

In this part of the test, there are two texts about different aspects of healthcare. For **questions 7-22**, choose the answer (**A, B, C or D**) which you think fits best according to the text.

Text 1: Physicians and drugs in sport

After years of doping scandals involving elite athletes such as cyclists and sprinters, the major role physicians have played in these doping cultures has received much less attention than it deserves, especially in medical circles. Physician involvement in these illicit, and often medically dangerous, practices will seem counter-intuitive to those who associate physicians with the task of healing and the injunction to do no harm. One rationalisation for physician-managed doping is the ‘lesser harm’ argument: since an athlete may not possess the self-discipline or knowledge to limit their intake of doping drugs, it is the physician’s responsibility to exert some control over this and thereby limit medical harm. What such physicians do not understand is that at least some of these athletes will top off their medically sanctioned doses with drugs they obtain illegally on the black market.

The proponents of legalising ‘medically supervised’ doping imagine that such arrangements between doctors and athletes are comparable to proper clinical relationships between doctors and patients. In fact, these are doctor-client relationships that can subordinate medical judgment and the client’s health to the demands of performance. This mismatch is exacerbated when doctors become infatuated by the celebrity of their ‘patients’. Some doctors identify so strongly with athletes’ goals or derive so much satisfaction from the athlete’s celebrity status that they willingly abandon medical norms in favour of the ambitions of athlete-clients who are now effectively in charge of their medical ‘treatment’. This type of emotional dependence works in both directions. Just as doctors can succumb to the charismatic appeal of athletes, athletes can revere doctors as if they have all the answers.

There exists no scientific evidence that using ‘performance-enhancing’ drugs or methods for doping purposes is healthy, particularly in the mid- and long-term. A ‘doped’ athlete may be able to compete for a longer time, perform faster, tolerate higher workloads, or better withstand pain — but this is certainly far from beneficial to health. To illustrate this point, in a case of injury or fever, it is clear what the general medical practice should be. Why should it be any different in sport? Can one imagine a doctor prescribing amphetamines to a truck driver because he or she is too tired to continue driving? The use of even the most common drugs is associated with risks and potential side effects. To argue that medically supervised doping is safer because a doctor is in charge misses the point entirely. Every day, in hospitals and clinics, patients experience the side effects of drugs despite strict monitoring by highly experienced doctors.



The World Anti-Doping Agency (WADA), organised in 1999 by the International Olympic Committee, introduced the term *therapeutic exemption* and defines it as the use of a drug for the restoration of normal health. But one of the central problems in defining a therapeutic exemption lies in understanding the evolving power of medical science. Medicine historically has focused on restoring normative health for those with pathologic conditions. As medical science advances, however, the focus of treatment transcends the longstanding goal of normalising pathologic conditions and extends into the concept of wellness and helping individuals feel better than they have ever felt. So, from a medical therapeutic perspective, where does the restoration of normative function end and the beginning of performance enhancement start?

Further complicating this issue are the subtle ways in which performance-enhancing drugs are sport specific. For example, in sports like golf, archery, or pistol shooting, where a steady hand is critical, beta-blockers provide a performance-enhancing function that combats the normal physiologic tremor that is exacerbated in high-pressure situations. Conversely, in an endurance sport like cycling or long-distance running, beta-blockers adversely affect performance and would not necessarily be prohibited. An interesting question to consider is whether athletes with adult attention deficit hyperactivity disorder (ADHD) are better athletes when treated with stimulants. Some athletes actually perform better when their ADHD symptoms are not treated with medication. A basketball player who has symptomatic ADHD may be more spontaneous or unpredictable for the opponent while another player with ADHD may have difficulty disciplining him- or herself to stay in position unless his or her ADHD symptoms are treated with medication.

The global demand for androgenic anabolic steroids has grown to serve multiple niche markets that include the elite athlete population along with much greater numbers of people employed in physically demanding occupations and other ‘action-oriented’ subcultures. The involvement of physicians in the doping of athletes must be understood in the larger context of the promotion of hormonal enhancements for entire populations of prospective ‘patients’. In an era when testosterone-replacement drugs are being touted as an elixir of youth, distinguishing between traditional therapy and enhancement procedures is becoming increasingly difficult. Warnings against indiscriminate testosterone supplementation from medical authorities cannot compete in the media marketplace with drug company advertising. ‘Doping doctors’ can be seen as the vanguard of an army of medical practitioners who are leaving the traditional practice of medicine for the cash-only business of male hormone replacement therapy.



Text 1: Questions 7-14

7. In the first paragraph, the writer suggests that physician involvement in sports ‘doping’
- (A) has been conducted irresponsibly.
 - (B) has been well-intentioned but misguided.
 - (C) has received more attention than it deserves.
 - (D) has succeeded in reducing the potential dangers.
8. In the first paragraph, the word ‘this’ refers to doctors
- (A) pointing out the risks of harm from a particular drug.
 - (B) providing information about the effects of drug-taking.
 - (C) attempting to regulate an individual’s drug consumption.
 - (D) supporting an individual’s efforts to reduce their drug intake.
9. In the second paragraph, the writer suggests that doctors involved in ‘doping’ risk
- (A) compromising their medical standards.
 - (B) believing the message that they know everything.
 - (C) becoming dependent on income from celebrity patients.
 - (D) placing unrealistic performance demands on their clients.
10. The example of the truck driver is given to underline the idea that
- (A) performance-enhancing drugs have few adverse effects.
 - (B) appropriate practice should be followed in every situation.
 - (C) experienced doctors sometimes make errors of judgement.
 - (D) amphetamines are commonly overused throughout society.



11. In the fourth paragraph, the writer suggests that medical science has advanced to the extent that
- (A) certain therapies are no longer banned in sports.
 - (B) people can be more confident about their own health.
 - (C) some pathologic conditions have become normalised.
 - (D) traditional boundaries of therapy have been broadened.
12. Specific sports are referred to in the fifth paragraph to exemplify the idea that
- (A) many athletes would prefer all medications to be prohibited in their sport.
 - (B) a lack of self-discipline may drive athletes to seek medication.
 - (C) medication can both help and hinder sports performance.
 - (D) medication is routinely used to overcome fatigue.
13. In the final paragraph, the writer expresses some unease about
- (A) misconceptions regarding what testosterone is.
 - (B) widespread marketing of testosterone supplements.
 - (C) support given to drug companies by medical authorities.
 - (D) questionable financial practices within the drug therapy industry.
14. The writer uses the word 'vanguard' in the final paragraph to suggest
- (A) a marketing initiative.
 - (B) an economic incentive.
 - (C) a likely future development.
 - (D) an unexpected consequence.



Text 2: Diagnostic errors in medicine

Mistakes happen, in medicine as in any other field. But medicine may be unique in the extent to which the scale of errors is contentious and perhaps unappreciated. A contributory factor, in many countries, is that deaths caused by medical errors can't be identified as such on the death certificate – there is simply no option to do so. And if you're not keeping records, you can't know the scale of the problem. However, even indirect methods of assessing error-associated mortality suggest that the figures are startlingly high, and that diagnostic errors represent an increasing proportion of the total.

This may be partly due to the nature of modern healthcare. After the patient presents with the initial complaint, each step in the diagnostic investigation presents the physician with a bewildering array of possible paths to take, in terms of what questions to ask and which investigations to order. In addition, the process is not linear in the way it is normally presented in textbooks. It is likely that a doctor will have to take a few steps back to find the right route, especially with more challenging cases. And it seems doctors often jump ahead as well as back – one study has shown that treatment alternatives are often evoked during the diagnostic assessment, before a final diagnosis has even been reached.

This latter finding is **counter-intuitive**, but could be relevant to the question of medical error. A well-understood characteristic of decision-making is that the initial hypothesis generation stage is very important. If we see someone behaving oddly in the street, we immediately form an idea as to why this might be. And once we have mentally structured a problem in a specific way, it can be very difficult to restructure it. This is exactly the same in a diagnostic situation. So, for example, a doctor who has not explicitly considered cancer at the start of a diagnostic process, will be much less likely to diagnose it at the end and refer the patient to a specialist.

So, how might diagnostic error be reduced? The first problem is disclosure, as without openness the problem cannot be tackled. Surveys suggest that an overwhelming majority of practitioners agree that serious errors should be disclosed to patients. Yet, while in one study 47% of pathologists questioned had been involved with a serious error, only 17% had actually disclosed a serious error to the patient. Clearly, the system prevents doctors from being as transparent as they would wish. Why should this be?



Firstly, it is natural to be concerned about one's reputation, and therefore, when things go wrong, instinct may tell us to keep quiet. But above and beyond this are fears for one's actual livelihood. In an age where an individual physician's error record may be posted on the internet, error disclosure could result in a fall-off in patients for that physician – not good in cultures where physician payment is based on the fee-for-service system. Compare this with the airline industry – it gives pilots a medal for admitting that they had a near miss, because it helps everyone to understand where the risks are. What's more, there's no risk to the pilot's job because the near misses aren't publicised per person - there is much to be said for this approach.

Even in situations where a doctor wasn't responsible for the error, it can still be difficult for them to disclose one that comes to their attention. They are faced with the option of talking to the physician at fault themselves, or going to the institution's risk management officer. Generally they pick option one, as risk management is their absolute last choice. But this can contribute to errors remaining hidden, because it leaves the choice of how to proceed with the physician. And unsurprisingly – given the disclosure disincentives outlined above – sometimes the error report goes no further.

Then there is the fear of litigation. This is a consequence of the 'deny and defend' status quo, in which the default reaction of healthcare organizations is to deny responsibility for errors or any harm therefrom. From the patient perspective, 'deny and defend' has been said to be slow, inequitable, and inefficient; from the physician perspective, expensive, stressful and inclined to incentivize 'defensive medicine' i.e., the avoidance of higher-risk patients or procedures. In fact, most physicians have a very powerful moral compass and don't need fear of litigation to drive their behaviour in the right direction. For example, in a survey of 2,000 doctors in the US and Canada, disclosure rates were identical in these two countries despite their very different litigation environments. Perhaps then the litigation environment merely acts as a general stressor, which contributes to an environment of non-disclosure, but only drives non-disclosure in particular circumstances.



Text 2: Questions 15-22

15. What point does the writer make about medical error in the first paragraph?
- (A) It varies enormously from country to country.
(B) Methods of reporting it are beginning to improve.
(C) Errors relating to diagnosis outnumber all others.
(D) The problem is likely to be worse than many believe.
16. What aspect of the diagnostic process is the writer drawing attention to in the second paragraph?
- (A) the input that patients like to have in it
(B) the time it takes to perform all the steps
(C) the indirect way conclusions are reached
(D) the quantity of data that needs to be analysed
17. Why does the writer use the word 'counter-intuitive' in the third paragraph?
- (A) He finds it worrying that doctors make diagnoses so quickly.
(B) He was surprised at the variation in doctor's treatment choices.
(C) He feels the study looked at the problem from an unusual angle.
(D) He would expect a doctor to diagnose a patient before treating them.
18. What potential problem is the writer describing in the third paragraph?
- (A) a natural preference for an easy solution
(B) people having a tendency to jump to conclusions
(C) causes of disease manifesting in very different ways
(D) doctors being wary of generating multiple hypotheses



19. What do the figures provided in the fourth paragraph reveal?
- (A) There is a gap between doctors' intentions and their actions.
(B) It is unclear why some types of error remain so under-reported.
(C) Many doctors don't believe it necessary to report medical error.
(D) The rates of medical error vary considerably across different fields.
20. In the fifth paragraph, the writer praises the airline industry for
- (A) presenting errors to the public in a way that can be readily understood.
(B) allowing those who acknowledge mistakes to remain anonymous.
(C) making sure that all employees are aware of risk factors.
(D) paying pilots in a way that is not linked to performance.
21. What does the word 'this' in the sixth paragraph refer to?
- (A) a private conversation
(B) postponing a decision
(C) speaking to senior staff
(D) passing the problem on
22. What conclusion does the writer come to about the fear of litigation?
- (A) It has had some positive impact on how doctors practise.
(B) It is more of a problem for patients than doctors.
(C) It is less of an issue than might be expected.
(D) It drives some doctors out of the profession.