Zig Zag Education

Health and Social Care BTEC Nationals | BTEC Level 3

Case Studies with Activities for BTEC Level 3 National in Health and Social Care

Unit 14: Physiological Disorders and Their Care

zigzageducation.co.uk

POD 9415

Contents

Teacher's Introduction

This resource has been prepared to assist students and staff with the learning ai
National in Health and Social Care. It comprises a collection of presentations by
studies, set in the fictional town of Thornton Green. These provide the basis for
both classroom and homework use, to complement the teacher's input. It shoul
but should instead be seen as a guide to help students with their own research.
teacher; it is a supplementary source to facilitate teaching and learning, and cou
virtual library.

It contains a variety of student-centred activities, discussions, tasks and practical
care situati[on]s. These are designed to encourage students to develop their knov
their assign[ments]. In Unit 14, students are expected to choose two disorders to
in which they create a care plan for one of them. The activities in this resource w
they need to achieve this before they carry out the research for their own choice
may find it easier to use some of this material as the basis for their actual assignm
may prefer to take what they have learned here and apply it to examples they ha
example, a case study based on a service user they know in placement or a family

In writing this, I have called upon my experience as a clinical scientist, including w
technician in the NHS. I have also used activities similar to these while teaching a
students, including both the 2010 BTEC specification and the current 2016 versio
written for. In addition, I am approaching this as a long-term user of the very NH
have both type 1 diabetes mellitus and coeliac disease.

All the worksheets are photocopiable, and they provide a valuable resource for t
place through practical tasks performed by the students themselves. Where rele
given for the activities.

Many of the activities and case studies are based on visits to and interviews with
that the information is as up-to-date and as relevant as possible. Organisations a
different ar[eas] and [the] provision may depend on practitioners' interpretatio
strongly rec[ommend] that contact is made with local authorities and service prov
situation is a[s] now it differs from what is presented here and, if possible, to arr
speakers in.

The information provided is correct at the time of writing, but legislation and circ
should check the current situation for any changes.

A web page containing all the links listed in this resource is convenie
Education's website at ***zzed.uk/9415***

You may find this helpful for accessing the websites rather than typi

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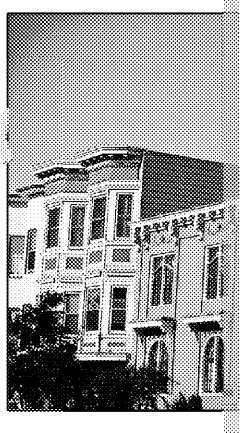
** resulting from minor specification changes, suggestions from teachers and peer reviews, or occasional errors reported by customers*

Go to **zzed.uk/freeupdates**

The Thornton Green scenar



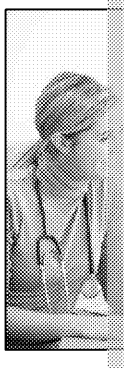
The presentations and case studies in this book have been drawn from health and social care settings in Thornton Green, a small market town a few miles from a [illegible] city, with several features that are typical of many towns in Britain in the twenty-first century.

A recent health survey shows that residents generally enjoy a good standard of health, but there are pockets of deprivation where health is poor, and a large proportion of the town's children live. One such area i an area of mainly social housing, with few amenities, three mi centre. Access to services is generally good, but recent econo created transport issues for some elderly and poorer residents

The local health service providers have identified the following concern: coronary heart disease, various cancers (including lu obesity, diabetes and asthma. With an increasing number of e area, there is a growing need for services for them, including services are having to handle more disorders of ageing, includ Parkinson's and various forms of arthritis.

The credit crisis has led to service cutbacks and business closu increase[illegible] level of unemployment. Many long-established s been replaced by charity shops and fast-food restaurants. A n groups have been identified as needing additional support for s including travellers, homeless people, members of ethnic mino from Eastern Europe.

Presentation 1: The general practitioner



My name is Dr Rachel Morris, and I am a general practitioner (GP) attached to the Parkway Health Centre in Thornton Green.

My role is to see to the medical needs of our varied community. Patients can book an appointment to see me or one of my colleagues at the practice when they have an illness, and we assess their symptoms and make a diagnosis.

During a diagnostic procedure, I use several investigative methods. Apart from asking about the patient's symptoms, I take what is known as a history, which basically means talking to the patient and asking them questions which will help me reach a diagnosis. These will include asking about their lifestyle habits (tobacco use, alcohol consumption and any family history of disorders such as cancer, heart disease or diabetes. Once these have been discussed, I might also examine the patient for any observational signs such as rashes. This step in the process is all about narrowing down the possible options and deciding what tests to do next stage.

I then do some basic physiological checks of the patient's general level of health, such as measurements of heart rate / pulse and blood pressure, and using a stethoscope to listen to the lungs (a method called auscultation). Depending on the symptoms described, I might also carry out other tests. These can include collecting urine or blood samples. Both urine can be tested for the presence of glucose or proteins (neither of which should be present in a healthy patient) and blood can be used for a full blood count (FBC) test, which measures each different blood cell type as well as the level of iron in the blood. You can also measure the serum levels of the different hormones and other things such as rheumatoid factor and specific antigens.

It usually takes 24 to 48 hours for the results of the tests to come back from the lab, but can take longer. Once we have all the information, the surgery will then contact the patient for an appointment to discuss the results. Depending on the outcome of the tests, I will discuss a treatment plan with the patient there and then or refer them to a specialist. For certain physiological disorders, such as diabetes or Parkinson's, a referral to a hospital specialist for that condition will be needed. This is because, as a GP, I cannot be expected to be an expert to know about every condition. My job is to work out the best type of consultant to refer to. The consultant will then do other tests to work out a more precise diagnosis (for example, the exact type of a disease they have and how severe it is) and discuss a treatment plan. Once this has been achieved, the patient is usually referred back to our practice for long-term care. It is my responsibility to prescribe the medication suggested by the consultant and to carry out medication use reviews (usually on a six-month cycle).

Presentation 2: The nurse practitioner (diabetes specialis

My name is Abena and I am a nurse practitioner at Parkway Health Centre in Thornton Green.

I am a specialist nurse and my role is to carry out regular appointments with patients with diab[e]s mellitus. For most of these appointm[e]nts is part of what we call the regular 'M[e]dicine Use Review' process. It is a requir[e]ment for patients on medicatio[n] rec[e]ived through the repeat prescription system to h[a]ve a review of their treatment every six months or so. The online system the practice uses for repeats is set up to only allow a prescription item to be ordered six times before it needs to be reviewed.

A review is usually a short appointment with the patient. We discuss how whether there are any issues with the treatment. I will measure their weig comment on any blood or urine test results that are shown on the patient's I will take a blood sample via venepuncture to carry out the haemoglobin testing for cholesterol and any other blood factors that may be required ba appointments. Sometimes the GP or consultant will suggest investigative something will come up in the conversation with the patient that requires will check for vascular and nerve damage in the low[e]r extremities. This is complication of diabetes which can, if not caught in time, lead to ulceratio limbs. I have had patients who ha[d] minor injuries to the foot, caused by sta piece of broken glass, whi[ch] they have not been aware of due to nerve dam response. The vascular damage causes slower healing due to a blood supp stays open[,] gets infected because it is not treated. This can lead to gan prevent this we encourage regular checks of the feet by patients and chiro own basic checks. These include checking the pedal pulse (the pulse that ankle) and stroking the patient's foot with a monofilament Semmes-Weins with a sharp needle to see if they react.

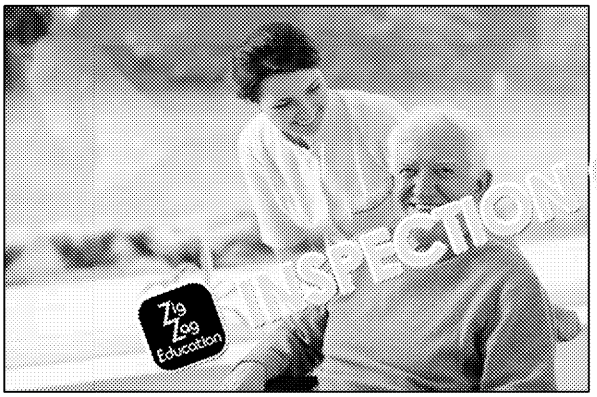
Another part of my role is to make sure that the patient is aware of all the This can include access to a chiropodist or optician to deal with some of th well as making them aware of the existence of charities such as Diabetes U facilities such as the DAFNE (Dose Adjustment For Normal Eating) course

- **DAFNE:** *zzed.uk/9415-dafne*
- **Diabetes UK:** *zzed.uk/9415-diabetes*

ACTIVITY

Abena is a specialist in diabetes. Do some research into the other roles nurse practitioner; for example, specialist in different disorders, working with a consultant or in a community clinic.

Presentation 3: The private care home worker



My name is Samantha Gar
Pinecroft care home in Tho

Pin is a privately run
e ly patients, some of w
diseases of ageing. We hav
from the after effects of a s
profound effects on their q
who have long-term condi
dementia or arthritis.

It is our responsibility as care workers to manage the varied needs of our r
are as comfortable as we can make them. This involves making sure they a
religious/ethical and medical dietary requirements, and that they have a c
are appropriately entertained and cared for.

Because care at Pinecroft is 24 hours a day, seven days a week, our manag
ensures that all staff are given the overnight and weekend shifts on a fair r
staff – for example, child care – are also taken into consideration. We cove
full- and part-time permanent staff and hourly paid agency staff hired fro
recruitment office that specialises in care staff.

Permanent staff are expected to maintain t e nual professional deve
safeguarding, health and safety anagement of different conditio
expected to have the sa g, which can be provided by us or via th
long their c ct All staff are expected to be compliant with the d
requireme to have a clean certificate. We also expect all care staff t
and education for the role they are conducting and to comply with profes
regularly inspected by the Care Quality Commission (CQC) to ensure we

I spend some of my shift doing rounds of the patients' rooms, helping the
other duties such as ensuring they have their medication and giving what
get to the dining hall or recreation rooms. For example, when I am doing a
duty to wake the residents up and help them dress before taking them to t
tidy their room and make their bed. Each resident has a care plan in whic
how we deal with them. For example, it will list whether they are vegetar
been prescribed a low-protein or other medical diet. It also covers such th
schedule and what assistance they use for mobility e ing.

The residents we deal with often hav p nd needs that cannot be adeq
home. Many service users w pl ological disorders do not need the le
in assisted care ho e they are monitored and have assistance on h
independe he might be cared for at home, either assisted by family
some of wh ight be hired from Thornton Care or other private suppli

Case Study 1: Meera

Meera is a 15-year-old, newly diagnosed type 1 diabetic. She has only just been released from hospital and into the care of the staff at Parkway Health Centre. However, she is also having regular outpatient appointments at the diabetic clinic with Dr Zhou while her treatment regime is being adjusted.

She lives with her parents on the Greenview estate and is a student at Greenview High School. She was in the middle of studying for her mock exams when her diagnosis occurred. For a number of weeks her parents and teachers were concerned that she had been losing a lot of weight, and it was initially believed she might have anorexia nervosa. It was also observed that she was asking to go to the toilet a lot in lessons and on one occasion a student was sent to find her as time and she was found in the corridor drinking from a two-lit She complained when challenged about this by a teacher that is always tired and that she needed the drinks for the energy t incident has led to bullying by her classmates and this, combin all the time and spending a lot of time out of class, has severe attendance and attainment in school.

It was clear something was wron[illegible] neither her parents nor the reasons for the symptoms until she collapsed during a PE who attended the scene was quick to spot the characteristic 'p breath and did a fingerprick blood glucose test, which came u 28 mmol/l. She was rushed to hospital and immediately put o bring her blood glucose down, and fluids (isotonic saline) to re meantime, the consultant ordered an HbA1c test and a c-pept the diagnosis as type 1 diabetes.

She spent several weeks in hospital both recovering from her c educated in how to manage her diabetes. She has been presc and has been working with a dietician to establish how to fit h treatment. She has already complained extensively about not drinks and is clearly distressed by the potential changes to her bring.

For more information on the diff[illegible]t investigative procedures used here, u

- **C-peptide test:** *zzed.uk/[illegible]-c-peptide*
- **HbA1c test:** *zzed.uk/[illegible]-hba1c*

Fact sheet 1a: Investigations for diagnosis of diabetes

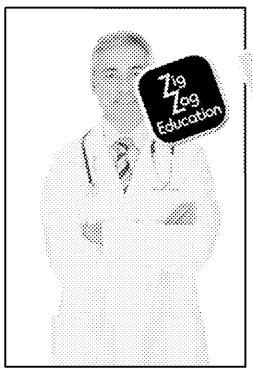
Rachel Morris, GP at Parkway Health Centre

For diabetes mellitus, the big giveaway symptoms are thirst and excessive urination. If a patient reports those my first step will be to ask them to supply a urine sample which will be tested for the presence of glucose. We use a commercially bou[illegible]p stick test which gives a reading as none, trace, +, ++, +++ or ++++ rather than a numeric value. The same testing [illegible]s [illegible] contain a second chemically treated pad w[illegible] will show the presence of ketones in the urine usi[illegible] th[illegible] measurement system.

The presen[illegible]ither glucose or ketones in the blood is a cause for concer[illegible] investigation. The next step would be to do a random blood glucose test f[illegible] same sort of kit that we issue to patients for this purpose and it will displa[illegible] mmol/L. Normal range is between 4 and 6 mmol/L and we have concerns [illegible] much higher than that.

Another test we will use is called the fasting blood glucose test. This is where [illegible] overnight and their blood glucose is tested again. Blood glucose should fall i[illegible] and has normal insulin function. A fasting blood glucose of greater than 7 m[illegible]

The final test we use is called the HbA1c test. This gives an indication of b[illegible] months and measures the percentage of the patient's haemoglobin that is [illegible] bound to it. The longer the glucose levels in the blood are high, the highe[illegible] haemoglobin. A level of 7–8% (above 53 mmol/mol) is a cause for concern[illegible] venepuncture and is sent off to the hospital lab. W[illegible]lly get the results [illegible] though in an emergency we can usually g[illegible] th[illegible]m quicker.



Dr F[illegible] J[illegible]es, A & E consultant at Thornton Hea[illegible]

[illegible] diabetic patients commonly come into A & E in[illegible] through a collapse caused by ketoacidosis. Our first p[illegible] by restoring fluids and to bring the blood glucose dow[illegible] usually requires an insulin drip with frequent monitor[illegible]

Ketoacidosis is a build-up of ketones in the blood cause[illegible] down fats for energy and it can be deadly – leading to c[illegible] treated. Paramedics are trained to spot the tell-tale sig[illegible] smell of 'pear drops' on the breath. If they spot this, th[illegible] blood glucose test to confirm and call in to us at the hos[illegible]

Dr Hannah Zhou, consultant diabetologist at Thornton Heath Hospital

Patients usually come to me via a GP referral or from A & E. The first thin[illegible] urine, blood glucose and HbA1c tests performed by the GP or A & E consu[illegible] confirmation of the results and see if there are an[illegible]s since the initia[illegible] other tests to establish the diagnosis mo[illegible] re[illegible]y, such as a c-peptide test. This checks for a protein w[illegible] linked to insulin production. If the test shows normal le[illegible] in a patient with high blood glucose, it u[illegible]lly [illegible] they have type 2 diabetes. If the c-peptide [illegible] low or absent, this indicates type 1 diabetes. It is very important t[illegible] get accurate diagnosis of the exact form of diabetes the patient has because the treatment methods are very different. In Meera's case, we very easily diagnosed type 1 and were able to quickly move into establishing an appropriate treatment regime.

Fact sheet 18: Professionals and care settings for D

Dr Rachel Morris, GP at Parkway He

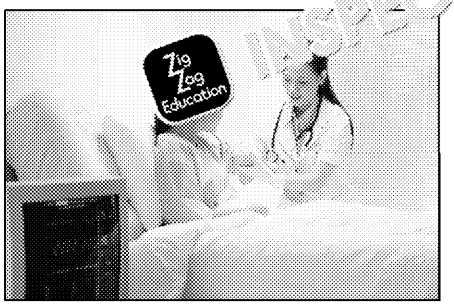
A diabetic patient is likely to need to s professionals in the course of their tre they will need to have regular appoin and will have to come to us regularly f prescriptions will be dispensed by the pharmacy attached to the surgery. They might the community, such as chiropodists a local health trust sends out a reminde have a reti[illegible]y scan to check for the onset of diabetic retinopathy. Mo done by the local opticians in Thornton Green high street.

Meera is newly diagnosed and very young so we do not expect her to dev complications for a long time. However, if she is not careful in her contro eventually need to access other services such as a nephrology ward for dia or support for blindness.

Jacey Long, supporter care advisor (Diabetes UK)

Diabetes UK is a charity which looks out for the needs of diabetics. We provide a number of opportunities for diabetics of all ages to socialise and also provide education on the disorder for those newly diagnosed. We can offer advocacy services and advice on insurance and other financial matters. As a charity, we fund research into diabetes and also lobby government on behalf of our members. One of our greatest successes was lobbying for free prescriptions on the NHS for all diabetics.

Dr Hannah Zhou, consultant [illegible]ologist at Thornton Heath Hospital



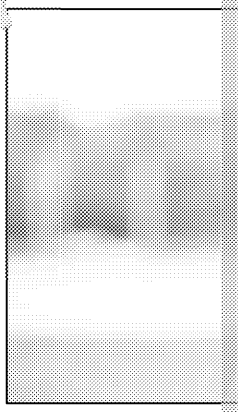
My role as consultant is to offer a varie across the trust area. This includes out Green hospital, but we also do some co surgeries and other primary care centre community clinics are there to augmen to make my services as a consultant mo

I also run specialist clinics such as one antenatal session for women with diab gestational diabetes, and an 'insulin pump' clinic. In my appointments wi best care and treatment plan for her, making sure that she is empowered t about her own care. Her choices will determine which services she will ac example, she attends my 'insulin pump' or 'young person' clinic. We will continually and determine if my services are adding value to her care or w different service. For example, she may start in c[illegible] the hospital-based c community clinic as her control improve[illegible]. As she gets older and her lifest discuss modifying her care to su[illegible]change.

All clinics r[illegible]with a number of different professionals. The community c diabetes n[illegible]d a dietician available, whereas, for the hospital-based cl three junior doctors, three or four specialist nurses, a dietician and an opti more specialist equipment, such as a camera for taking retinography imag diabetic eye disease. We are currently looking at a cost–benefit analysis o clinic, but currently patients need to access that service in the community.

Case Study 2: Rose

Rose is a 60-year-old woman who lives alone on Greenview es
Her husband died of a heart attack two yea
ago and she still lives in the three-bed ro
house they shared together for most of their
married life. Her dau ter Marjorie, and her
daughter's hus Malik, live out in the
village o Hemdean, on the suburbs of
Thornton Green, where she works as a
primary school teacher and he travels a lot as
a financial auditor. Marjorie tries to visit her
mum as often as she can but finds it difficult
due to her work, childcare and the fact her
husband uses their car a lot, so the journey from Hemdean to



Around five years ago, Rose went to the doctor complaining ab
her right hip. The doctor diagnosed osteoarthritis and put her o
and told her to come back if it got worse. Since then, she has
relief suggested, has adopted a cane to help her walk and has
complaints'. She took early retirement from e job as a librari
School when her husband died and st rted doing charity work
organises coffee mornings f r the Aged and acts as treas
The arthritis had not s gnificantly affected her ability to do any

However recently she presented at the surgery with severe p
in her knee. She was also experiencing sore and stiff fingers.
arthritis in her hip had suddenly got worse and referred her to
for a hip replacement. However, she also suspected the knee
showing signs of rheumatoid arthritis and so sent her for bloo
c-reactive protein test and a rheumatoid factor test) and scans

For more information on diagnosis of osteoarthritis, use the fo

- **General information:** *zzed.uk/9415-osteoarthritis*
- **How osteoarthritis can change:** *zzed.uk/9415-arthrolink*

Fact sheet 2a: Investigations for diagnosis of osteoar arthritis

Dr Rachel Morris, GP at Parkway Hea

The diagnosis of oste arthritis is often d examination of the jo nt and through di their symptoms. We look for the classic signs such as pain and tenderness, a creaking (we refer to as crepitus) and excess fluid. If to do a referral and order other tests to the patient's GP, I can usually work out the symptoms and make suggestions as to how patients can manage the di locomotion caused by the disorder.

However, osteoarthritis is a progressive disorder and can sometimes prog of relative stability. In the case of Rose, this is exactly what I suspected ha considered it necessary to refer her to a surgeon.

In addition to the worsening of her osteoarthritis, I suspected Rose was als arthritis in her knee and finger joints. For this reason, I also referred her fo specialist to help formulate a treatment and support regime to manage bo

Mr Richard Marshall, consultant orthopaed Hospital

Our first step in diagnosing osteoarthritis is t caused by something else. For example, if no we will do a blood test to check for markers of rh (rheumatoid factor) and we will use imaging n resonance imaging or ultrasound to visualise might do investigative surgery, using keyhole methods and a camera to lo

The next step is to establish how severe the arthritis is so that we can determ Many patients can be referred to another specialist for non-surgical treatmen viscosupplementation, for example. These are sometimes better for younger patients we consider joint replacement if they are eligible due to their age an

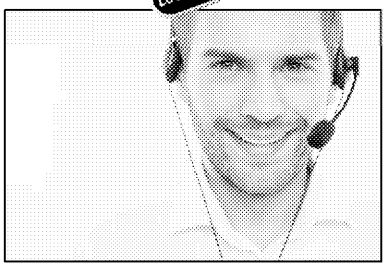
Dr Ciaran McGarret, consultant gerontologist at Thornton Heath Hospit

My role is to help diagnose and treat patients with age-related disorders, including arthritis. I run regular clinics both in the hospital and in the community and can also do home or care home visits if absolutely necessa I vary the locations of my clinics to improve accessibility and we always have to be careful to ensure that our locations are fully accessible to wheelchairs and similar mobility aids and that the patients are aware that they can ask for hospital transport if needed.

For Rose, my first step is to establish exactly what form of arthritis she has a her day-to-day life so we can assess her needs and deal with them. This w with the surgeon treating her osteoarthritis as well as in consultation with the blood tests ordered by the GP and the scans done by the surgeon will h treat her.

Fact sheet 28: Professionals and care settings for o
rheumatoid arthritis

Dr Rachel Morris, GP at Parkway Health Centre
Many arthritis patients are managed in the comm[illegible]rough the surgery. They come to us for their repeat pre[illegible]ptions and for checks to review their medication. If anyth[illegible]h[illegible]ges in their arthritis, such as the symptoms progressing, they can book an appointment to discuss this and we can consider how best to deal with it.



Tony Fields, helpline advisor for Arthriti
My role is to act as a first point of contact w helpline looking for advice. Sometimes the advice on how to handle their symptoms a to talk. I do sometimes have to act as a cou also offer email and face-to-face support. A fundraise to pay for the provision of our he provide general information about all forms of arthritis. Our website conta number of arthritis patients who all give a positive spin on their experienc important for other patients to read.

zzed.uk/9415-arthritiscare

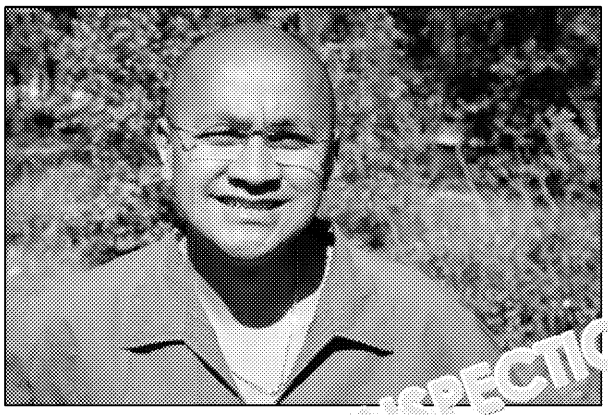
Mohammed Aswan, NHS physiotherapist b[illegible]e[illegible]hornton Green Hos
Many arthritis patients find regular s[illegible]s[illegible]with a physiotherapist to be u managing their condition. I can help them relieve their symptoms by show regular exercises th[illegible]is to strengthen the muscles around their joints things suc[illegible]sistance bands to achieve this, and some patients find trea such as hyd[illegible]erapy useful. A GP can do a referral for a short period of t with me then the patient can take what they have learnt and carry on the t their own home. If the condition changes, the GP might suggest another r update the treatment.

In addition to this, many patients find alternative therapies such as hot sto help relieve their symptoms. The NHS supports these therapies so long as patient is not abandoning their medical treatment in favour of them. There acupuncture and similar therapies.

Maria Coleman, occupational health therapist
The symptoms of arthritis can lead to many issues w[illegible]he patient's day-to-day life. It is my role as an o[illegible]cu[illegible]at[illegible]nal therapist to assess exactly what they[illegible]re[illegible]able of and work out strategies for them. This can be something as simple as a device to help open jars or changing the patient's kitchen so the things they need more easier to reach. We can supply mobility aids such as walking sticks, Zimmer frames or wheelchairs to those who need them. We usually can't provide scooters for patients but we do offer vouchers for discounts to buy one for those patients who w

zzed.uk/9415-mobility

Case Study 3: Vijay



Vijay is a 47-year-old father o
with his family on the Greenvi
wife, Ayesha, works part-time
His two children (Meera, 15, a
both attend Greenview High S
to work a[illegible]a us Park industr
ca[illegible]acturer, but since th
into receivership a few years a
factory closed, he has been u

He has been a h[illegible] smoker for much of his life, not uncommon in th
heavy industry. He has a history of trying to quit without success but
stopped trying since becoming unemployed. He has also given up loo
saying there is nothing out there for him, and he never really had a so
of his work colleagues. He spends a lot of time at home alone and his
concerned about him being depressed. However, despite her efforts,
report to his GP or any mental health service with this.

Vijay presented to his GP at Parkview with a series of chest infections
cough that he just could not seem to get rid of. He was treated with a
antibiotic combinations, and while each seemed to relieve the infectio
would just recur a week or so later. On one of his visits, Vijay reporte
urinated blood. The doctor saw this as an imm[illegible]e concern. She su
prostate cancer so performed a digital r[illegible] examination and took a u
check for infection and a blood s[illegible] to check for PSA (prostate-spe
Given the history of smo[illegible]g and industrial work, she was also concer
respiratory sym[illegible]s [illegible]re indicative of either lung cancer or chronic
pulmonary disea[illegible]COPD).

The GP ordered an immediate referral to Dr Simons, an oncologist at
hospital and gave Vijay leaflets and advice on the NHS stop smoking s

Dr Simons did some tests and discovered that while Vijay did indeed h
prostate cancer, there was no evidence of lung cancer. This led to a r
respiratory specialist, who diagnosed COPD.

For more information on the disorders seen here, use the following websites:

- **Prostate cancer diagnosis:** *zzed.uk/9415-prostatecancer*
- **COPD diagnosis:** *zzed.uk/9415-COPD*

Fact sheet 3A (i): Investigations for diagnosis of pros

Dr Rachel Morris, GP at Parkway
We were very lucky to catch the pr
The symptoms are often those that
even be awar nd include such
urinat' n fo xample, needing to
flow), which can also be a sig
problem such as infection. Many m
the issues with sexual performance
don't want to report them to the do

The blood in the urine was a strong indicator of something that required i
performing a digital rectal examination that confirmed the prostate was e
positive blood test for prostate-specific antigens and a negative test for uri
prostate cancer a high likelihood.

The diagnosis of cancer is not certain, however. An enlarged prostate cou
men develop something called 'prostate enlargement'. The oncologist sho
exact nature of the problem.

Dr Sarah Simons, consultant oncologist at Thornton Heath Hospital
There are many tests we can do to diagnose cancer once a patient has been referred. There are two important steps here. The first is to establish that it is indeed cancer and no ne other disorder that will require referral to anc ice. Secondly, we grade the tumour and t it if it has spread to somewhere other than the pri ary s e. When this happens, we say the cancer has s ised. The sorts of test we perform ir m netic resonance imaging (MRI) scans to visualise th our – to note its location, size and shape. These also allow us to see if there are tumours anywhere else. In the case that there were no signs of tumour in the lungs.

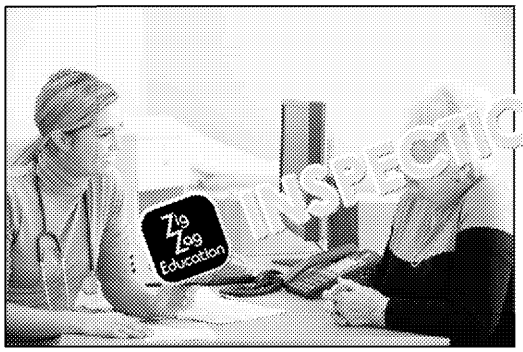
Once we have located a possible tumour, we need to perform a biopsy to
if so, how fast-growing it is. There are two ways to collect a sample for bi
ultrasound guided needle inserted into the anus – and transperineal – wh
the perineum (through the skin behind the scrotum). The sample is then s

This information is all pooled together to allow us to grade the tumour. T
for this – number staging and the TNM system. The grade we assign the t
determines which treatment method will be most effective.

TNM staging		Numb	
T	Size and position of the t	Grade 1	Small, localised tu
N	Which lymph have been affected, if	Grade 2	Larger tumour. M tissues adjoining t
M	Wh the cancer has metastasised and to what extent	Grade 3	some evidence of advanced' – havin
e.g. T2N1M0 is a large tumour that has spread to local lymph nodes but not yet metastasised		Grade 4	Secondary or met through the lymp

Fact sheet 3a (ii): Investigations for diagnosis of chro pulmonary disease

Dr Rachel Morris, GP at Parkway Health Centre



The symptom of COPD are not a from other respiratory disorders i mptom is a persistent cough an chest infections, can also suggest The history of heavy smoking pu towards lung cancer or COPD. T ask those personal history questi procedure because anything the p clue as to what is really going on

I had no way to confirm which of the two it was and determined that it was oncologist for the potential prostate cancer (see fact sheet 3a(i) for details) an of lung cancer at the same time. This would then allow a referral to a respir was COPD. As it turned out, there was no lung cancer so the referral to Dr

Dr Sabrina Fairweather, consultant in respiratory medicine, Thornton H

COPD is common in indust who work with airborne du Often the symptoms don't p as such until the patient is o diagnosis difficult.

The most common method spirometry test. This involv through a mask into a mach measures various factors ab volume and how much air t them in one second. These readings are compared to a normal standard fo to determine if there is a problem.

Many of the rest of the investigative procedures we perform are to elimina example, a chest X ray to eliminate infection and lung cancer. We also tak blood count (FBC). This can show infection (through white cell counts) bu for anaemia or polycythaemia (high red cell concentration) as both can be as COPD. There is also a test we can do to check for a specific genetic muta deficiency) which is a risk factor for COPD. How ever this condition is rela

There is a risk of confusing COPD with asthma as the symptoms are very s from the diagnostic tools we use. However, the risk factors for the two Asthma is often a condition that is diagnosed in youth and has a series of w lead to an attack, which can be established when taking a patient history breathing issues get worse when they are exposed to certain allergens? CO to occur in middle age and is linked to a history of smoking or exposure to workplace. Given this information, the balance of probability suggests Vi

Fact sheet 38 (1): Professionals and care settings fo

Dr Rachel Morris, GP at Parkway Healt

As we do for many patients with long-ter patients through the repeat prescription se acquire whatever th eed from their co patients are o ur online system, wh ther those who are in care or unable t e delivery service. We are also availa side effects of the treatments through our

Prostate ca atients can often go for a long time without needing treat However, there are many who suffer problems such as erectile dysfunctio presence of the tumour. The surgery can help them by providing a prescri sildenafil (Viagra) or training them to use pelvic floor exercises to improve muscles.

Dr Sarah Simons, consultant oncologist at Thornton Heath Hospital

I have regular consultations with cancer p outpatients' clinic during their treatment there to allow me to check the treatment i change it as necessary. I also see them fo over for regular reviews to check that rem cancer does not return. My duties also in oncology ward at T on Heath and vis care homes who are not able to travel.

Many of the treatments for cancer require regular visits to a specialist clini performed. My team plans and runs these clinics and makes sure the needed for our patients are available.

Anisa Begum, Macmillan nurse

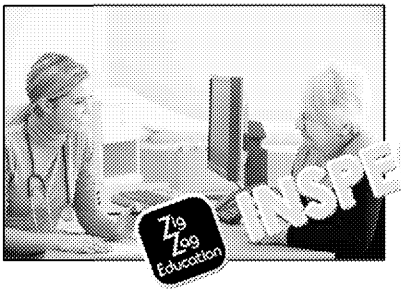
Macmillan is a charity that supplies funding to pay for nursing support fo cancer patients. As Macmillan nurses, we are expected to work within the NHS with patients undergoing palliative care, which is sometimes referre to as end-of-life care. Some of us work in NHS hospitals while others wor in the community, in care homes and hospices. Before I became a Macmillan nurse, I worked for a few years as a general nurse and did som training as a mental health nurse before deciding that palliative care was good. I am experienced in managing pain in patients and offering a symp on as needed.

Adrienne Lachowicz, assistant psychologist for Thornton Green Primary

Cancer is one of the disorders that ca a lot of emotional stress for service users. Even though treatments have improved massively in recent years and survival rates are higher, many still consider it to be a terminal di is. As well as holding sessions with cancer patients in primary ca tres, I do sometimes also visit them in hospices or at home if needed. Emotional support is essential for cancer patients, especially if they do find out that the cancer has developed to the point where it is terminal and palliative care is the only option. I use techniques theories to help patients negotiate these difficult times.

Fact sheet 38 (ii): Professionals and care settings fo pulmonary disease (COPD)

Dr Rachel Morris, GP at Parkway Health Centre



Vijay's COPD will be mo itored by the surg outpatient clini s' s GP, I am responsib access hi ea ion. A common treatmen s – the same bronchodilators used i heir role is to expand the airways to make b will be prescribed either short- or long-actin may be on theophylline tablets, which relax t

However, the most effective way to treat COPD in the early stages is usua surgery also serves as a venue for the stop smoking service offered by the one and group sessions in consultation and meeting rooms after hours. St reverse any damage already done but it will prevent more damage from o

Dr Sabrina Fairweather, consultant in respiratory medicine, Thornton H

My team works with Vijay in my outpa symptoms are under control. It is my r confirmed, to establish the most effecti may take a number of visits to the clini regime that works.

In the GP surgery will be doing, I t t help them stop smoking. We can gi and explore the diffe p ns. For Vijay, this may be all he needs if his and this is as it means he does not have too many different treatmen and his pr cancer. I will liaise with his GP and oncologist to make su we prescribe interfere with each other. For example, theophylline cannot b smoking. Bronchodilators also do not work well if the patient is taking ce Given that Vijay is already showing symptoms of depression, it is likely th up taking antidepressants, so we need to be aware of this.

Case Study 4: Reginald (Rex)

Reginald, who prefers to be called Rex, is a 62-year-old man who lives with his wife on Shakespeare Road, a row of large houses opposite Greenview High School. He trained as an engineer and started his career as a designer for a car manufacturer based at the Ica[illegible]ustrial estate. He was very career-focused and moved up the management chain to end up as head of the design department. His wife, who is 58, is the current principal at Greenview High School.

A few years ago, Rex suffered a heart attack and almost died. T employer went into receivership and closed, Rex chose to take e than look for another job, though he did take on some freelance himself busy. However, he recently started to notice problems w muscles in his hands. One of the fingers on his right hand woul making it difficult to use his computer mouse. He was also havi his chair. Initially he thought nothing of it and shrugged it off as the tremor got worse, and because he was also finding it difficul he stopped taking freelance commissions and started to look for time post retirement, especially during term time, when his wife

By the tim his next routine GP appointment, the symptoms h tremor of his hand and the doctor noticed this and asked him so gave him some simple physical tasks to perform, noted how we and suggested a referral to a neurologist, Dr Cadigan, to confirm Parkinson's disease.

For more information on the different investigative procedures used here, use the f

Parkinson's diagnosis (video): *zzed.uk/9415-parkinsonsvideo*

Fact sheet 4a: Investigations for diagnosis of Parkinso

Dr Rachel Morris, GP at Parkwa

Parkinson's disease is a difficult c
successfully as there is no definit
we can perf . Diagnosis is ge
of sy to . The tremor is the
o see slowness of movement (b
muscles. Our usual strategy at th
history and ask them to perform

In Rex's cas reported that the tremor started in his right hand and, on
he does sometimes have trouble standing up from his chair but he had pu
reported a lack of focus and memory and agreed that he felt his sense of sm
to be. These are all signs of Parkinson's and help me to distinguish it from
similar symptoms. My next step, therefore, was to arrange a referral to the
Thornton Heath hospital.

Dr Geoffrey Cadigan, consultant neurologist at Thornton Heath Hospita

An important part of Parkinson
other possible causes of the sym
asymmetrical tremor, evidence
symptoms such as memory loss
indicat t at the cause is a lo
c is substantia nigra (ref
Parkinson's), we do prefer to be
other causes.

One such possibility, for exam
brain. This can be caused by multiple, small strokes in the brain, what we
attacks (TIA). The damage these cause can lead to a similar impact on the
referred to as vascular parkinsonism. Given that Rex has a history of hear
of other cardiovascular diseases, and it is possible an undetected TIA is the
TIA can happen without the patient really being aware of it, but the signs
still be there.

We can eliminate vascular parkinsonism as a possible cause by performing
imaging (MRI) scan of the brain, which will reveal the damage caused by
any other issues which may be linked, such as a brain injury. Other possib
HIV infection and a form of dementia called diffuse L y body disease.

A useful method to confirm idiopathi P inson's is to prescribe the patie
dopamine and send them aw with that for a short period before assessin
we use is levodopa w is converted into dopamine after digestion. If t
then we ca m that is Parkinson's and start to refine the treatment plan
on the drug have to start investigating other possible causes.

More on vascular parkinsonism: *zzed.uk/9415-vascular*

Fact sheet 48: Professionals and care settings for P

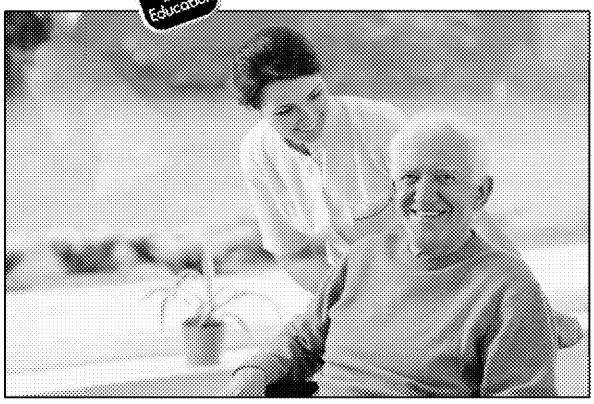
Maria Coleman, occupational health therapist

My role with Parkinson's patients is to carry out a basic needs assessment in their home and work out what can be done to make their life easier – simple adjustments such as n[illegible]g furniture to help them move around the hous[illegible], f[illegible]xample. This can involve suggesting specif[illegible]qu[illegible]ent or adjustments to the way they do things. [illegible]v[illegible]vice users with Parkinson's find the cutle[illegible]w[illegible]handles we sometimes give to arthritis pa[illegible]useful in helping to control their tremor when eating, for e[illegible]mple. Some also like to have an alarm system that can summon help if they have a problem.

When considering home care, we do need to consider the availability of ca needs assessment usually includes questions about family members who m some tasks. There are also community-based charity and social care servic as private care agencies. These can help by doing things around the house housework tasks or provide cooked meals. As the disorder progresses, so need to move into sheltered housing where they can get more support, or e

Samantha Garnett, care worker at Pinecroft Care Home, Thornton Green

Pinecroft deals with a number of physiological disorders with our residen that develops with age, so we sometimes see sign[illegible]s[illegible] our existing resi residents have needed to come to us bec[illegible]e [illegible]eir Parkinson's has become at home or in sheltered accomm[illegible]n[illegible] because their primary carer is n support them by makin[illegible]e[illegible]t all their needs are taken care of. Like m been given t[illegible]in[illegible]rking with service users who have Parkinson's.



issues a specific service us help with deciding strateg to help.

We may see Rex in the ho the time being it is likely h home with a combination This situation will be moni however, and if anything adapted to suit the new ci

Activities

Activities based on the Thornton Green scenario

For most of these activities, you will need the case studies and presentatio

The specific materials required for each activi[illegible] are clearly displayed in th

This pack contains a variety of student centred activities, discussions, role
exercises based on health and social care settings. They are designed t
develop th[illegible]owledge and prepare to them for the assignments. In add
specifically [illegible]ver the learning aims of this unit, there is one general acti
the vocabulary used by medical professionals, which could be used as an
requires a lot of individual research by students, it is important that they u
come across when reading around this topic. Students should be encoura
starting point for their own glossary of terms which they can develop as t

Some activities are designed to be done as group or pair work. How a tea
groups and run the activities is up to them. However, it is suggested that
of the case studies provided and the members of that group work on that
throughout the unit.

Because there is a broad range of professionals involved in treating the dif
it is difficult to give an appropriate range of experie[illegible]n three presentat
are provided to give additional information f[illegible]ssionals that is spe
condition, there is one fact sheet co[illegible] how it is diagnosed and another
settings. These should be issued to students when working on the appropr
each group could be issued with a booklet comprising the three presentati
and all the [illegible]eets linked to that case study at the start of the unit.

Extension activities are there for students to complete if they have comple
their own time or during independent study sessions. These are designed
to complete merit and distinction criteria on the assignments.

Some of the worksheets and activities can be printed on A3 or larger to all
work or for whole-class feedback.

Once the students have completed all the activities, they will have practise
complete both assignments required to complete the unit for one physiolo
specification requires students to study two disorders for assignment one
and C in this booklet) and choose one of those to create a care plan for assi

Students could use one or mor[illegible] case studies in this resource as the b
or may prefer to work [illegible] disorder of their own choice.

Activity I1 (Glossary of medical te

Topics covered

☑ All

You will need:

☑ Medical dicti
☑ Access to rel
☑ One of the di
copies of the
presentation

When researching physiological disorders, it is important to be able to und
medical terminology. As you progress through this unit, you should be co
terms used by doctors, nurses and other medical staff when discussing the
researching. You should be building up a growing glossary of medical ter
writing your assignments. These tasks will help start this process.

Activity I1 (individual work)

☞ Your teacher will give you a copy of the clinical staff presentations an
On the page 22 there is a list of keywords that are found in the presen
dictionaries and/or the Internet to find definitions of these words.

☞ When complete, discuss your definitions with another student. Do you
Decide between you which of your definitions is best or come up with

☞ Prepare to feed back your ideas to the class.

Activity I2 (group work)

☞ Identify words or phrases in your case study and presentations which
definitions for. Write these words in the blank glossary table.

☞ Discuss these words with your group and try to work out a definition

☞ Finally, research the actual definitions in medical dictionaries and onl
definition based on your research.

☞ You can use additional copies of the blank glossary sheet to add more
this unit. Keep the completed definitions in the front of your file when

Answer Sheet for Activity I1

Signs
Symptoms
Risk factors
Venepuncture
Auscultat
Sphygmomanometer
Physiological disorder

Answer Sheet for Activity I2

Term	Group definition	

Section A: Investigate the causes and effect
disorders

Activity A1: Types of physiological disorders a
body syst[illegible] and functions

Topics covered

- ☑ A1 [illegible] physiological disorders and their effects on body systems and functions

You will nee

- ☑ The fo[illegible] per ta[illegible]
- ☑ Textb[illegible] the In[illegible]

A1a: Types of physiological disorder

☞ There are four tables, each with a different case study and some other [illegible] with the case study you currently have, discuss as a group what you t[illegible] disorder and what organs and systems are involved in the pathology o[illegible]

☞ When told to by your teacher, move to the next table and repeat the ta[illegible]

Notes on this activity

☞ The aim of this activity is to make [illegible] th[illegible] you are aware of what is m[illegible] in terms of the specificati[illegible] ould, for example, be careful of co[illegible] factor'.

☞ Online [illegible]es, and even some textbooks, won't help you with this. T[illegible] 'cause' when they really mean 'risk factor'. For example, many reputa[illegible] explicitly state that 'smoking causes lung cancer' when really they me[illegible] lung cancer'.

☞ As far as the specification (and, therefore, these activities) is concerned

A *physiological cause* is a change to a cell, tissue, organ or system that le[illegible] example, the blocked coronary arteries in angina or the tumour in can[illegible]

A *risk factor* is something that increases the probability that the disease unhealthy diet increases the risk that coronary [illegible]s become blocked chance of a tumour developing.

☞ If you keep these two [illegible]ities in mind while you work, you should activity.

Name of patient	Name of disorder	Physiological cause
Meera	Diabetes mellitus	
Rose	Osteoarthritis	
	Rheumatoid arthritis	
Vijay	Prostate cancer	
	Chronic obstructive pulmonary disease (COPD)	
Reginald (Rex)	Parkinson's disease	
	Coronary heart disease	

A1b: Impact of physiological disorders

☞ Your next task is to discuss the impact of the disorders. You need to c
mental, emotional and social impacts of each disorder on the service u
record them on the table below.

☞ Impacts can include such concepts as the ... signs and sympto
day-to-day life as well as the si... of treatments and the social s
aspects of the disorder (... how people who use walking aid
public).

Name of ...order	Physical impact	Mental impact	Emotiona

A1 Extension

There are many examples of celebrities and sports personalities with phys
Research one of these and copy and complete the table below.

Name of celebrity	What are they famous for?	Physiological disorder	One impact o disorde

Activity A2: Causes of physiological d

Topics covered

☑ A2 Causes of physiological disorders

You will n

☑ A case
☑ Access
(textbo

☞ Choose a physiological disorder. You may select one of the ones used study one of your own choice. Check your choice with your teacher b

☞ Resear disorder and prepare a short (five-minute) speech on the to the class. Use the questions below to help shape your speech.

Name of disorder:	Name of service use
Physiological cause of disorder	
Risk factors	
Inherited/genetic factors	Lifesty
Dietary factors	Enviro

Activity A3: Signs and symptoms of physiol

Topics covered

☑ A3 Signs and symptoms of physiological disorders

You will ne

☑ A set of
for each
☑ Access t
textbook
disorde

A3a: What is a [illegible] and what is a symptom?

☞ Work [illegible] ll groups (e.g. groups of four).

☞ Divide the sign and symptom cards into two piles. One pile of signs, back to your glossary definitions of signs and symptoms to check the

☞ Your teacher will ask each group to feed back. This will involve you i and symptoms correctly.

A3b: What causes the signs and symptoms of a disorde

☞ Within your group, assign roles – an even split between doctors and p are in a group of four, have two of each.

☞ Shuffle the cards and put them in front of [illegible] p ents. Each patient ta describe the sign or symptom on [illegible] e doctors without giving away the exact sign or symptom. Some example ways to describe it may be free to describe a [illegible] t ak appropriate.

☞ The do must then confer to work out what disorder the patient h disorder links to the symptom described.

☞ Alternatively, this can be done as a whole-class activity where studen card and the whole class works out the solution. You can use mini wh answers.

☞ If the doctors cannot guess correctly, they can ask questions for more d stick to the rules above and not give away the name of the disorder. I know what an abbreviation stands for, you can remind them of it.

Signs and Symptoms Cards

Excessive urination (diabetes mellitus)

e.g. 'Well, Doctor, I just can't stop going to the toilet.'

A cough that lasts more than three weeks. (COPD)

e.g. 'I just can't seem to shift this cough, Doctor. It's been weeks. Maybe I need some antibiotics?'

Slow movement (Parkinson's disease)

e.g. Do a demonstration of your arms moving slowly.

[Could also be caused by other disorders such as osteoarthritis]

Persistent chest infections (COPD)

e.g. 'It wasn't that long ago I was here with another chest infection, I just keep seeming to get them.'

Pain in the hips or knees (osteoarthritis)

e.g. 'Ooh, my hip/knee is really giving me trouble today.'

Extreme thirst (diabetes mellitus)

e.g. 'I just can't stop drinking all the time, Doctor.'

Urinating blood (prostate cancer)

e.g. 'I'm a tad concerned, my wee was a bit red yesterday.'

A fasting blood glucose over 7mmol/L (diabetes mellitus)

'You measured fasting blood glucose and it came out as … mmol/L '

[Give a value between 7 and 11]

Breathlessness (COPD)

e.g. 'I just can't seem to breathe properly, Doctor.'

[Could also be caused by asthma or coronary heart disease]

Stiff and inflexible muscles (osteoarthritis)

e.g. 'When I wake up in the morning I sometimes can't move my knee at all.'

[Could also be caused by other disorders such as Parkinson's disease or RA]

A grating or cracking sound or sensation in joints (osteoarthritis)

e.g. 'It's like a sort of crunchy, clicky thing when I move it.'

Problems with urination (prostate cancer)

e.g. 'I find it very difficult to go to the [illegible], Doctor.'

Serum sample is [illegible] for prost[illegible] antigen (p[illegible]e cancer)

e.g. 'You did a PSA test and it came out positive.'
[If they do not know what PSA stands for you can tell them]

An MRI scan shows no sign of vascular damage or brain damage to explain the patient's tremors (Parkinson's disease)

e.g. 'You did an MRI scan but found no vascular damage to explain my symptoms.'

Blood pressure higher than 140/90 (coronary heart disease)

e.g. 'You measured my blood pressure and said it was…'
Give a number higher than 140/90 but no higher [illegible] 190/1[illegible]

Serum tests positive for RF (rheumatoid factor) (rheumatoid arthritis)

e.g. 'You took some blood and said it wa[illegible]ive for RF, [illegible]ever that means.'
(If they ask, you can tell them what RF means)

Heart palpitations (coronary heart disease)

e.g. 'My heart just seems to go rattling off for no reason.'

Erectile dysfunction (prostate cancer)

e.g. 'It's a bit embarrassing, Doctor, but I'm having problems with sex.'

For the next part, use the case study you have been working on in your gr

☞ In the table below, list the signs and symptoms for the disorder. Use t and your own research to complete this. Add a short description of e indicating if it is a sign or a symptom. In the third column, explain ho linked to the physiological cause of the disorder. Where there is more with the case study, you can choose one to write on here.

Physiological disorder:	Patient name:	
S... sy...ptom	Description of sign or symptom	H... li...

A3 Extension – Impact of a disorder

☞ Using your notes on the impact of the disorder, write a report on the i
service user in the case study.

☞ **Consider:**
- their lifestyle circumstances
- their family and friends
- physical, mental, [illegible] and social impacts

☞ You w[illegible]d to seek out sources that back up your claims as to how t
and we[illegible]eing and use these to present a coherent argument as to wh
conclusion linked to why this disorder is or is not a barrier to health a

Suggested websites:

Type 1 diabetes:

zzed.uk/9415-type1

Prostate cancer:

zzed.uk/9415-cancerimpact

COPD:

zzed.uk/9415-copdimpact

Arthritis:

zzed.uk/9415-arthritisimpact

Parkinson's [illegible]ea[illegible]

zzed.u[illegible]pa[illegible]kinsonsimpact

Section B: Examine the investigation and physiological disorders

Activity B1: Investigative procedures for physi

Topics covered

- ☑ B1 Investigative procedures for physiological disorders
- ☑ Diagnostic procedures for physiological disorders

You will ne

- ☑ Informat and your physiolo
- ☑ One of th
- ☑ Fact shee

B1: What methods can you use to investigate and diagnose ph

☞ In your small group (no more than four), discuss general investigative by doctors.

☞ **Consider:**

- methods a GP might use when a patient first presents to them wi
- methods a specialist might use in a hospital outpatient setting
- methods that may be specifically appropriate to the patient in your ca

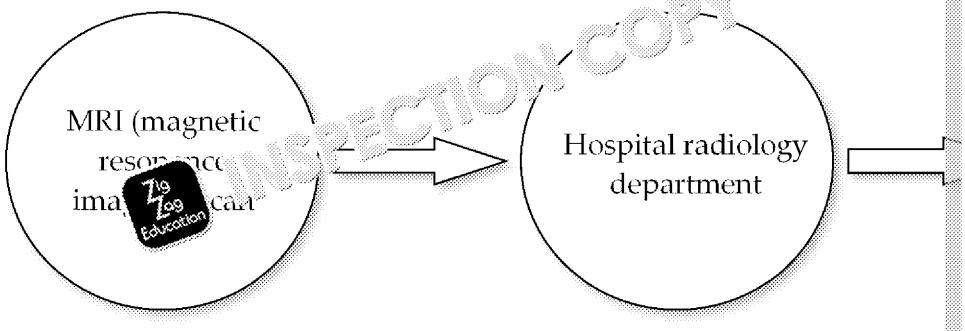
☞ Be prepared to take part in a whole-class discussion. Your teacher wi each student for an idea and noting it on the board as a spider diagr

'What methods can be used to diagnose a physiological disorder?'

☞ Individually, copy this diagram onto a sheet of A3 paper.

☞ Expand your diagram by adding the places where these investigative performed; for example, GP surgery, hospital ward, specialist clinic o (pharmacy, optician, chiropodist, etc.).

☞ Finally, annotate your diagram with examples of disorders that migh Indicate (highlight or mark with a *, for example) which investigation case study.



Activity B2: Diagnostic procedures for physio

B2a: Diagnosis of physiological disorders

☞ In small groups (no more than four students), you will work with one
relevant presentations and fact sheets to help you create a poster des
investigations that could be used as part of the diagnostic procedure f
can help you plan your work.

Disorder:		Patient:
Investigation method	**Description**	**How do**

Are there any signs or symptoms in any of the disorders described in you
common to another disorder or which may otherwise cause confusion in
here.

If so, how one or more of the investigations above help to confirm

B2b: Compare diagnostic procedures

☞ When your poster is complete, your teacher will tell you where to dis

☞ One member of your group must stay with the poster to help explain
the group wander around to view all the other poste

☞ You have two goals when viewing other pos
1) Grade the posters using th or below, assessing them based on
how well it is pres d
2) Com re investigative procedures used *for one* of the disorde

Peer assess poster grading form:

Name of Group:		**Disorder:**
Grade the following features (1–4 where 1 is highest, 4 is lowest)		**Comm** (Why did you g How could they im
How accurate is the information? Are there any areas you disagree with?		
Do you think they have covered everything on this topic? Are they missing anything?		
Are you f this poster engaging? Does it grab your attention and make you interested in the topic?		
How well presented is the information? Layout, clarity, use of colour?		
Overall grade (average of the values above)		

☞ The pe essment forms are anonymous and should be handed to y
the relevant groups.

☞ When you have your peer assessment forms back from the rest of the
through them as a group and discuss how you could improve your po
feedback.

☞ To compare the diagnostic procedures, complete a copy of this table fo
Consider signs, symptoms and investigative methods that are commo
that are present in one but not the other.

☞ You can choose to do a different disorder each, so your group gets to s
disorder. Alternatively, you may choose to all do one and discuss you
allows you to see if you all pick up the same points or if you have disa
similarities and differences.

☞ Your teacher might specify which of these two options you do and ma
perform this task.

Your disorder:	Other disorder:
Similarities	**Dif**

☞ To assess the diagnostic procedures, complete the following table for a disorder. Consider such things as:

- How effective the method is at getting a diagnosis (does it give a some chance of misdiagnosis?)
- How invasive the test is and, therefore, how this affects patient co surgical procedures such as biopsies)
- How much the test will cost the NHS or patient's medical insu test is (i.e. can the test be done in the GP surgery or do they have

Disorder name:	
Investiga ethod:	
Advantages	**Disa**

B2 Extension – Justify the potential benefits of d
investigation methods

Find two sources of information on the diagnosis of the disorder of your
based on UK healthcare. Read them, fill in the table and answer the ques

Source one	So
Reference details:	Reference details:
Methods suggested:	Methods suggested:

Do the sources suggest different methods for investigating the disorder?

.....

.....

.....

.....

What do you think are the reasons why each source suggests the method

.....

.....

.....

.....

.....

.....

.....

.....

Which method do you think is the most useful in diagnosing this conditi

.....

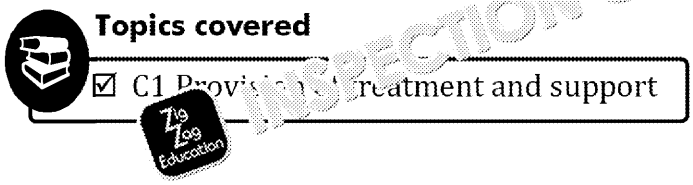
.....

.....

.....

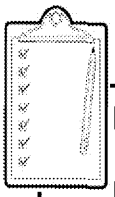
Section C: Examine the treatment and sup
users with physiological disor

Activity C1: Provision of treatment an



Topics covered

☑ C1 Provi… treatment and support



You will

- ☑ Copies provi
- ☑ One o
- ☑ Fact s
- ☑ Inform and yo physi
- ☑ One di

C1a: Explain the treatment and support provided for physiolog

- ☞ Whole-class activity. Your teacher will give every student a card.
- ☞ Each card names a treatment method (with additional details about th… where there is a drug name, there is a brief description of what the dr…
- ☞ Your teacher will then go … class and ask you which treatme… and at least one of the following questions about it:
  - W… of … disorders do you think this treatment or suppo…
  - H… es it help relieve the symptoms of someone with that disc…
  - What problems or side effects might be noted with this treatment?
- ☞ These answers can be recorded – one student can be assigned as the c… record them on the whiteboard. This can be done as a spider diagram …
- ☞ Then, you will have 10 minutes to research the treatment you have be…
- ☞ You will then be asked the same question again. Has your answer cha…
- ☞ You can record the answers given by other students on the worksheet…
- ☞ Your teacher might have an open, whole class discussion on some of t… misconceptions and refine yo… le…

☞ Complete the following table for treatments that were discussed in ac
you are studying.

Treatment/Service	Disorder(s)	How it helps treat disorder(s)

Levimir (12-hour daily 'basal' insulin)	**Tresiba** (24-hour daily 'basal' insulin)
Walking stick	**Capsaicin cream** (blocks pain receptors in local area, e.g. joints)
Codeine (opium-based analgesic)	**Levodopa** (converts to dopamine in the brain)
Insulin pump therapy	**Wheelchair**
Softened food (to assist swallowing)	**Acupuncture**

Surgery (radical prostatectomy)	**Large-handled toothbrush**
…ssions with a speech and language therapist	**Exercise** (to encourage weight loss and strengthening of muscles)
Stairlift	**Hot and cold packs** (applied direct to an …rea)
Diabetes UK	**Methotrexate** (a disease-modifying anti-rheumatic drug)
Celecoxib (COX-2 inhibitor)	**Dopa…ne agonists** (…ablet or skin patch)

Viagra (AKA sildenafil – to treat erectile dysfunction)	**Viscosupplementation** (series of injections of hyaluronic acid into the joint)
Monoamine oxidase B inhibitors (MAO-B inhibitors)	**Pelvic floor exercises** (to strengthen sphincter muscles in bladder)
Radiotherapy (either conventional external beam or internal radiotherapy, aka brachytherapy)	**Steroid injection** (anti-inflammatory corticosteroid)
Aqueressan (clinical foot cream for preventing dry skin)	**Chemotherapy**
Transurethral resection of the prostate (uses a thin metal wire inserted to remove pieces of the prostate)	**Cryotherapy** (inserting a probe that freezes an area of tissue)

Injection of platelet rich plasma (PRP)	**TENS** (transcutaneous electrical nerve stimulation)	**Laser e… treat… reti…**
Macmillan canc… supp…	**Parkinson's UK**	**Frien… either… servi… visiting… help wi… requ…**
Care agency staff making regular visits	**Residential care home**	**Assis… envi…**
Changes to lifestyl… (diet, exe…e, smoking cessation)	**Statins** (cholesterol-lowering medication)	**Coronar…** (surgery… v…
Infliximab (biological treatments, injected to stop chemicals that activate the immune system)	**Tofacitinib** (jak inhibitor – inhibits signalling in the immune syste…)	**Par…** (analge…

C1 Extension – Assess treatment and support for physi

☞ Using the case study you have been working on throughout these acti
treatments / care strategies that apply to that disorder. Write a short r
those strategies. Take into account the following:

- How effective it is at treating the symptoms of the disorder
- The stage of the disorder at which this treatment is applied
- Costs involved (and is it a one-off cost to the NHS or a continual
- Side effects of drugs or treatments
- Recovery times and risks for surgical procedures
- Patient compliance (i.e. will patients refuse the treatment or fail to
- Social effects of the strategy (e.g. embarrassment about being seen

☞ Finally, give at least two reasons why you would or wouldn't use that
your case study.

☞ Can you provide evidence (cite sources, quotes from experts or data) t
above?

Suggested websites

Diabetes – insulin pump versus insulin injections

- *zzed.uk/9415-insulin*

Prostate cancer – prostatectomy surgery

- *zzed.uk/9415-surgery*

COPD – theophylline treatment

- *zzed.uk/9415-theophylline*

Arthritis – complementary and alternative approaches

- *zzed.uk/9415-alternativetherapy*

Parkinson's disease – deep brain stimulation

- *zzed.uk/9415-deepbrain1*
- *zzed.uk/9415-deepbrain2*

Activity C2: Types of carers and care

Topics covered

☑ C2 Types of carers and care settings

You will n

☑ Inform
and yo
physio
☑ One of
☑ Fact sh

C2a: Typ of carer and settings in general

☞ As a group (no more than four students), discuss the professionals an
of that may be involved in the care and treatment of someone with a p
Produce a list of these.

☞ Make sure you consider all possible care settings including those that
professional setting.

Care professionals	C

☞ Discuss this in gr whole class – share thoughts. What spec
might specific disorder? Why are they needed?

C2b: Carers and care settings specific to the case studie

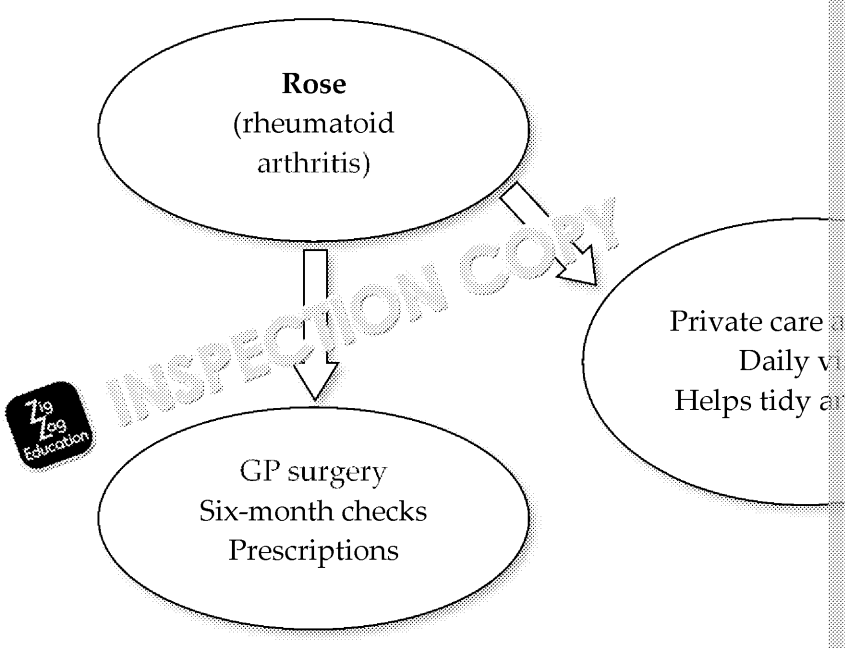
☞ Using the list above, work in your group with one of the case studies a the relationships between the patient and the different services and pr care of the person in your case study. Which settings do they attend? H while there?

☞ Make sure you consider all of the disorde[illegible]oned in the case stud settings.

☞ When you hav[illegible]ed this, one person from your group will stay prepa[illegible]sh[illegible]e your findings with others. The rest of the group mov and tal[illegible]es on what they have produced.

☞ For at least one of the disorders studied by the other groups, complete similarities and differences between the professionals they see and ca

Example chart:



Your disorder:	Other disorder:
Similarities	Differences

C2 Extension – assess professionals and care settings fo disorders

☞ Using the case study you have been working on throughout these acti care settings and one professional the patient might encounter. Write a assess those settings and professionals.

☞ For each, consider the follo[illegible] where relevant):

- the professio[illegible]se relative to other professionals involved
- ho[illegible]e professional or setting is in terms of time or spa in a [illegible]unity area or a larger regional hospital?)
- what barriers the service user might encounter when attending thi e.g. mobility or mental health issues
- how effective the professional or setting might be in helping the pa
- how cost effective the service is

☞ Finally, in your own opinion, why you think that professional or settin patient?

☞ Can you provide evidence (cite sources, and give quotes from experts o you have said above?

Suggested websites:

Hospital inpatient clinics vs comm[illegible]nics

zzed.uk/9415-clinics

Care Quali[illegible]mission (CQC) to access inspection reports on differen

zzed.uk/[illegible]-cqc

For roles and responsibilities of care professionals, see content in Unit 2 (Social Care) and also:

zzed.uk/9415-roles

Section D: Develop a treatment plan for s
physiological disorders to meet th

Activity D1: Care methods and str

Topics covered

☑ D1 Care methods and strategies

You will

☑ Inform
and yo
physio
☑ One of
and all
☑ A set o
patien

D1a: Assess the needs of an individual with a physiological dis

☞ Work in pairs.

☞ Each pair is given one case study and the relevant fact sheets linked to

☞ One of you chooses to be the patient, and the ot e care professio
worksheets).

☞ When the preparation is complete, pairs should get back togeth
The medical professional (brief 2) asks their questions and the patient
patient's case study.

Brief 1(a): The patient

- You are the patient named in the case study. You are going to have y by a professional. Read the case study and consider the possible issue the disorder, considering the lifestyle situation detailed in the study.
- Using the information you already have about your disorder from your pr additional research you perform, make some notes on the basic ca patient. Translate these into the sort of terms a patient might use to d having with their everyday lives.
- Make sure you consider the specifics of the case study – can the needs ethnicity, marital status, etc.?
- Discuss the above with the other student(s) using the same case study and use this to refine your notes on the care needs.
- Use the worksheet to help you structure your notes.

Name of patient:		Disorder(s):
Age	Gender:	Ethnicity:
Care need		How might this affe

Brief 2(a): The medical professional

☞ You are the medical professional who has been tasked with performin the patient named in the case study. You need to prepare for this.

☞ Using the information you already have on this dis der from previou research you perform now, write a series of questions that you think w basic care needs the patient has due to the disorder.

☞ Consider the full range of the patient's life: their symptoms, their daily hobbies, their friends or family.

☞ Make sure you take into account the specifics of the case study – can t gender, ethnicity, marital status, etc.?

☞ Share your questions with other students who are working as profess Discuss how you could improve them – questions you can add, quest better and so on.

☞ Complete the document below with your questions. You can then cop document, leaving space for you to write notes on what the patient sa

Name of patient:		Disorder(s):
Age:	Gender:	Ethnicity:
Care need		A question that you would ask a

D1b: Care strategies

Work in pairs. Students are assigned to the same roles in the same case st
D1a. The purpose is to discuss a treatment plan. They are issued with ne

Brief 1(b): The patient

- Using your research, consider w[illegible] the basic care needs discussed to you as that patient. W[illegible]ou most need resolving to give you a
- Havi[illegible]ew[illegible]d the care strategies that are available for your disord to use [illegible]at your disorder? Which ones do you not want to use – ei the side effects, you feel they may cause physical harm, they may imp they will be effective? Make notes on the care strategies and use them why you do or do not want to have this care strategy used for you.
- As a bonus, find one care strategy that is controversial. Maybe a drug an alternative therapy that is not effective or a treatment that uses son medicinal cannabis). Insist that you want that care strategy.
- Make sure you take into account the specifics of the case study – can t gender, ethnicity, marital status, etc.?
- Remember, the care planning process is about e[illegible]vering the patien with a set of strategies you both agree on.

Name of patient:		Disorder(s):
Age:	Gender:	Ethnicity:
Care strategy		Why you think it is helpful
Controve[illegible]hoice		

Brief 2(b): The medical professional

Using your research, work out a set of care strategies that you believe will
identified in D1a.

Make sure you are aware of the pros and cons of each strategy – effectiven
it helps relieve the symptoms or assists a patient in overcoming issues wit
arguments for each one that you will present to the patient. Why do you t
strategies out of the options available? Make sure you are considering the
life and the answers to the questions from the basic needs assessment.

Make sure you take into account the specifics of the case study – can the n
gender, ethnicity, marital status, etc.?

Remember, the care planning process is about empowering the patient. Y
a set of strategies you both agree on.

Name of patient:		**Disorder(s):**
Age:	**Gender:**	**Ethnicity:**
Care strategy		**Advantages**
Which strategies do you think will be most beneficial for the patient?		

D1 Extension

As part of D1a and D1b above, you will have been researching care needs a

There are many controversies surrounding care strategies. Pharmaceutical
therapists, clinical staff and patients often disagree on the best strategies

For one of the care strategies you have been considering in your role play,
sources (at least two, ideally three or more) about that strategy showing di
on how effective that strategy is.

For each so complete the following tasks:

- ☞ Note the details needed for correct referencing, such as name of autho
published, publisher as well as the URL and date published if a websi
- ☞ Note the origin of the source – is it a peer-reviewed scientific journal, a
hospital web page?
- ☞ Note the author (if one is listed) or the organisation who produced the
talk about this topic? What education or work experience do they have
the organisation have a good reputation in that topic?
- ☞ What evidence, if any, is presented to support the points made in the s
no support or can you see a logical basis for those opinions?

Based on the above, to what extent do you trust each source to give reliable

Activity D2: Treatment planning p

Topics covered

☑ D2 Treatment planning process

You will n

☑ One of t
and all
☑ Notes f
A, B an
☑ Notes f

D2a: Init care planning

Individual work. Using the notes and information from the role plays per
plan for the patient outlined in the case study you were using. You can us
you or design a form of your own to complete.

Name of patient	Diagnosis
Basic details **Date of diagnosis:** **Date of birth:** **Age:** **Ethnicity** **Gender:**	**Career and lifestyle g** (W oes the patient w (i ha the disorder mig Consider their job, hobbie responsibilities, etc.)

Patient history – how was this patient diagnosed?

Care need	Treatment or routine care suggested	Timescale of treatment	How does this treatment or routine care help patient with the care need?	Review date

D2b: Care plan review

☞ The plan in D2a considers the patient when they are first diagnosed. A this plan over months, or even years, circumstances may change that w how effective the treatments or care strategies are.

☞ For example, the following may occur:

- The symptoms of the disorde[r] ... improve (because the treatme
- The symptoms of the disorde[r] ... may get worse (because the disord treatment is ... ineffective).
- N... m... ...oms may develop as the disorder progresses.
- Th... ...ay be changes in the patient's life; for example, losing or g death or relocation of a family member who might have been a ca
- The care strategies may not be working as effectively as they shou
- The medications prescribed may have unwanted side effects the p

☞ You need to review the treatment plan you created in D2a at least onc patient that have happened since diagnosis and consider how to overc

☞ First you need to decide when this review is taking place. This needs during which a change might happen. An initial review could be any months after diagnosis, for example, with follow-ups on an annual ba early review – where treatment may still be being refined – or you cou in the patient's life.

☞ Secondly, you need to consider at leas[t] o[ne] ...ge that could have ha the above ideas. Try to make ... p...ible based on the time betwee how the condition de... ...s and the treatments work.

☞ The ca... di... are mostly set to have an open outcome. You can ma lives o... ...e patients will play out, so long as they are plausible with study. For example, is Vijay's cancer treatable or does he need palliat a four times a day insulin regime or require a pump? Will Rose need Parkinson's symptoms be managed at home? The answers to questio change the type of care needed.

The following role play activity will help you:

☞ Work in pairs. You should be using the same case study and role you

☞ Read the briefs given on the following worksheets.

☞ When the preparation work is complete, the pairs should get back tog play; the medical professional (brief 2) ask... ...e ... questions and the pa the patient in the case study.

☞ This role play can ... ...d several times to represent multiple revi Remem... th... should be at least one change in each review (yo review ... no changes to the care plan).

The template provided can be added to the care plan produced above for e you a continuous record of patients' progress through the reviews. Altern

Brief 1(c): The patient

You are the patient named in the case study. You are going to have your c
by your medical professional after a period of time agreed between you.

Consider the period you have agreed. What might have happened in that
how the disorder might progress as well as consider some things that coul
patient in that time – changes in the nature of the disorder, their home life
you think the care plan is working effectively or why not?

Make sure you consider the specifics of the case study – can the needs cha
ethnicity, marital status, etc.?

Have a set of notes prepared so you can respond to the medical profession
the worksheet to help you.

Name of patient:		Disorder(s):
Age	Gender	Ethnicity
What lifestyle changes have happened?		How has this a
How have your symptoms progressed?		How has

Brief 2(c): The medical professional

You are the medical professional who is reviewing the care plan for the pa
period. You need to prepare for this.

Considering the time from diagnosis you have agreed, work out what mig
terms of the disorder – changes in signs and symptoms, how treatments m
the full range of the patient's life: their symptoms, their daily life, their car
friends or family.

Make sure you consider the specifics of the case study – can the needs cha
ethnicity, marital status, etc.?

Write a set of questions based on the care plan from D2a that look at the w
For example, 'Last time we talked about using a walking stick to help you
this helps you at all?' Be ready with some appropriate improvements you
For example, 'Since the walking stick no longer seems to help, maybe we s
mobility scooter?'

Produce a document with your questions, leaving space for you to write n
in answer to each one.

Name of patient:		Disorder(s):
Age	Gender	Ethnicity
Possible changes to patient's health or lifestyle factors		Questions to ask the pa
Possible changes to treatments		

Record of patient progress

The following template can be added to the care plan produced above for e
means you will have a continuous record of the patient's progress throughl
conducted.

Alternatively, you can design your own care pla[illegible] ew template and use

Name of patient		Date of review
Change i[illegible]are need	New treatment or routine care suggested	How does this trea[illegible] routine care help p[illegible] with the care need?

Activity D2 Extension – Justify the care plan

☞ Referring to the care plans and reviews you have made for the patient, you have suggested and write a short paragraph where you say why y strategy or treatment plan.

☞ **Consider:**

- How will the strategy help t'e ent?
- How does the strat e co pare to the other available options (if a
- Why is thi s a gy better for the patient because of their lifestyl d ?
- Di d change this strategy in one of the reviews? Why? If not, w

☞ To support your reasoning, provide at least one citation of a source of each of the above questions.

Suggested websites

Review the sources used in C1 Extension.

Person-centred care (empowerment):

zzed.uk/9415-empowerment

Alternative therapies:

zzed.uk/9415-altcancertherapy

Answers

Introductory activity

Activity I1

For most of these terms there will be variant definitions, b[illegible] as the student's an[illegible] outlined below, they should be fine. Stress the import[illegible] using good technical keyw[illegible]

Signs
Something that a me[illegible] professional might measure or notice on a patient whe[illegible] blood pres[illegible] rate, blood glucose, body mass, rashes. Sometimes an obje[illegible] measure.

Symptoms
Something that a patient reports to a medical professional in the course of diagn[illegible] nauseous, pain, blurred vision, weight gain/loss, thirst, mood swings.
Note, it is common for students not to be aware there is a difference between signs and s[illegible] just use the term 'symptoms' to refer to both.

Venepuncture
A method of extracting a sample of blood from the veins of a patient for medical [illegible] practice, this is more likely to be using something like the Vacutainer system – a [illegible] sealed tubes containing specific anticoagulants (e.g. Heparin, EDTA) or other pr[illegible] requirements of different tests.

Auscultation
A general term for the practice of using a stethoscope to liste[illegible] to a patient's lung[illegible] disorders. Diagnosis is based on speed, strength and [illegible]ar[illegible]y of heartbeat and [illegible] sounds in the lungs when the patient breathe[illegible]

Sphygmomanometer
A device used to measure[illegible] pressure. More commonly known now as a blo[illegible] blood pressu[illegible] (millimetres of mercury) based on the old method of u[illegible] mercury [illegible] tube to measure pressure. Blocks blood flow into the forearm [illegible] pressure is [illegible]asured as two pressure values – systolic and diastolic.

Physiological disorder
A disorder in which one or more of the cells, tissues, organs or systems of the bo[illegible] effects. They can be linked to genetic mutations, environmental effects, lifestyle [illegible] often require long-term care, e.g. diabetes, heart disease, asthma, Parkinson's, ca[illegible]

Section A activities

Activity A1a

Case study	Name of disorder	Physiological cause
Meera	Type 1 diabetes mellitus	Damage to the pancreas / islets of Langerhans / insulin-producing/β cells of the pancreas, leading to little or no insulin production
Rose	Rheumatoid arthritis	Inflammation and fluid retention in the synovial joints
	Osteoarthritis	Damage to the cartilage cells in one or more joints due to long-term wear and tear. Leads to inflammation, tenderness and pain in the affected area.
Vijay	Chronic obstructive pulmonary disease	Damage to and inflammation in the lungs
	Prostate cancer	Uncontrolled cell growth leading to enlargement (tumour) of the prostate gland
Rex	Parkinson's disease	Damage to cells in the dopamine-producing substantia nigra, part of the midbrain at the top of the brain stem
	Coronary heart disease	Reduced blood supply to the heart caused by atherosclerosis (narrowing of the arteries) leading to a reduced oxygen and glucose supply to the cardiac muscle

Activity A1b

This activity has a broad range of potential answers to discuss, and we cannot ho
here. Some examples are given for each disorder but the students could potential
are not covered here.

Name of disorder	Physical impact	Me... impact	Emotiona
Type 1 di...tes mel...	Ri... and low ...d glucose (hyperglycaemia and hypoglycaemia)	Sy...oms of both low and high blood glucose include confusion. Potential risk of dementia in long term if glucose not controlled.	Concerns a change to l Risk of ass modern di are going t young as th the 1900s.
Rheumatoid arthritis	Difficulty moving due to pain and stiffness of joints	Fine motor control can be affected, impacting some tasks such as writing or computer use. Fatigue.	Feelings of linked to i do activitie used to enj
Osteoarthritis			
COPD	Breathing difficulties	Reduced ability to exercise and take part in normal activities lea... to pot... ...ental he... issues	Feelings of linked to i do activitie used to enj
Prostat... ...er	Diffi... s... ...tion (either incontinence or weak flow)	Mental health issues linked to loss of sexual function	Fear of dea reputation cancer bei terminal di
Parkinson's disease	Tremor and slow movement causing difficulties in day-to-day tasks such as brushing teeth or eating food	Problems with memory and focus	Feelings of linked to i do activitie used to enj
Coronary heart disease	Angina – pains in the chest during exertion Heart attack	Issues linked to complicated treatment (multiple drugs and lifestyle chang...	Emotional experienci attack

A1 – Extension

Example celebrities they could consider include: Michael J Fox (Parkinson's), Mol
Berry (type 1 diabetes), Kylie Minogue (breast cancer), Missy Elliot (Graves' disea
(fibromyalgia), Sir Steve Redgrave (type 2 diabetes) and Venus Williams (Sjögren

There are many websites available that discuss these celeb[illegible] and their conditio
features on famous people who suffer from the di[illegible]ease they support.

This task will help students unde[illegible]stan[illegible]more about the potential impacts and, mo
impacts can be overcon[illegible]. For example, they can see how someone such as Steve R
Olympic go[illegible]da[illegible]ist having type 2 diabetes or how the diagnosis of Parki
having to re[illegible]imself to voice work (e.g. *Stuart Little*) and finally retiring from
charity work for Parkinson's.

Activity A2

You might expect more detail on the causes here, maybe expanding into how the

Here again you need to be aware of the difference between a cause and a risk fact
able to link the risk factors to the causes (for example, smoking linked to the dam

Note, there may be a lot of overlap between some lifestyle choice factors, dietary
For example, links between obesity and diet/exercise choices. This can be a good
students disagree about where some risk factors should be [illegible]ed.

There follow some examples for the disord[illegible]e[illegible]case study.

Name of disorder: Typ[illegible]	**Name of service user**
Physiolog[illegible]as[illegible]t disorder Damage to [illegible]ncreas / islets of Langerhans / insulin-producing/β cells of the p[illegible] insulin production. Insulin is responsible for the movement of glucose from the blood into the body t[illegible] accumulate in the blood, and the cells will be unable to produce energy.	
Risk factors	
Inherited/genetic factors • Family history of type 1 diabetes • Race – it is more common in white/Caucasian ethnic groups	**Lifest[illegible]** N/A – unlike for type affecting the onset of make this misconcept[illegible]
Diet factors N/A – unlike for type 2, there are no dietary factors affecting the onset of this disorder (students may ma[illegible] this misconception)	**Envir[illegible]** [illegible]eoretical link to a vi[illegible] that causes the immu[illegible] destroying them

Name of disorder: rheumatoid arthritis	**Name of service user:** Rose
Physiological cause of disorder Swelling and inflammation of the synovial joints (including those in the knees and fingers) autoimmune response. This swelling leads to pain and lack of mobility in those joints and t lead to more damage to tissues surrounding the joints, including the bone.	
Risk Factors	
Inherited/genetic factors • Family history – one or more family members with the condition • More common in females than males – possible link to oestrogen is being investigated and it is linked to low testosterone in males	**Lifestyle choice** Smoking
Diet factors N/A	**Environmental** Age – more likely to occur in th but can happen at any age

Name of disorder: osteoarthritis	**Name of service user:** Rose
Physiological cause of disorder Wear and tear on the hyaline cartilage cells that coat the ends of the joints. This leads to th cushioning between the ends of the joints, leading to pain and inflammation as the two bo other.	
Risk factors	
Inherited/genetic factors • Family history – one or more family members with the condition • More common in females than males	**Lifestyle choice** • Overuse of joints – due to p activities (e.g. dance, martia req lot of squatting or Ob ty – putting more stra
Diet factors N/A – though there is a link to obesity (lifestyle factors) so an unhealthy diet is also lik	**Environmental** • Age – over 50, due to long-t • Joint injury or trauma • Other medical conditions in arthritis

Name of disorder: Prostate cancer	**Name of service**
Physiological cause of disorder Uncontrolled growth of cells in the prostate gland (tumour) leading to incre the cancer metastasising to other areas of the body. Growth can cause lack excretory systems including erectile dysfunction and difficulty with urinati	
Risk factors	
Inherited/genetic factors • Family history – a brother or father who develops prostate cancer before the age [illegible] increases likelihood of it developing • Ethnicity – more common among men of African C[illegible] African descent than other groups	**L** Link to obesity – have been shown
Diet factors • There is evidence that a diet high in calcium may be linked to a higher incidence of prostate cancer • An unbalanced diet (linked to obesity in lifestyle factors)	**E** Age – men over develop prostate

Name of disorder: chronic obstructive pulmonary disorder	**Name of service**
Physiological cause of disorder The lungs become inflamed and damaged. This causes narrowing of airwa breathing. The inflammation and damage are linked to chemical damage t factors below are linked to this. For example, the chemicals in cigarette sm damage the lung tissue.	
Risk factors	
Inherited/genetic factors • Higher chance of developing COPD if the patient has a relative with the condition • Asthma usually presents in older patients (middle-age+) • 1 in 100 people has a genetic mutation (alpha-1-anti trypsin deficiency) that makes them more prone to developing COPD at an early age (35+)	**L** • Smoking – r a much great the patient a • Risk from s exposure to environment
Diet factors N/A	**E** • Exposure to in an industr and fumes, g welding fur • These risks a • Air pollution

Name of disorder: Parkison's disease	**Name of service user**
Physiological cause of disorder Loss of function in the substantia nigra, a part of the midbrain responsible for pr neurotransmitter, dopamine. Dopamine is involved in the fine control of muscle linked to lack of an ability to exert this control. This leads to the tremors that are disorder.	
Risk factors	
Inherited/genetic factors • Family history of Parkinson's. Increases likelihood of developing the condition, suggesting genetics are involved but not the only factor. • Males have a higher chance of developing Parkinson's than females. Possibly linked to higher probability of head trauma or protective effect of oestrogen. • Low oestrogen. In women who are post-menopausal (without HRT) or who have undergone hysterectomy there is a higher risk.	**Lifest** N/A
Diet factors Low levels of vitamin B folate.	**Envir** • Advancing age – ageing; the decay progresses over ti symptoms until th • Exposure to agricu herbicides) • Head trauma – po substantia nigra

Name of d r: coronary heart disease	**Name of service user**
Physiologi ase of disorder A build-up of fatty deposits (atheroma) in the coronary arteries, a process called restriction of the blood supply to the heart, depriving cardiac muscles of oxygen This puts more strain on the heart itself as well as the lungs (increased heart and for lack of supply) and creates a risk of myocardial infarction (heart attack) when	
Risk factors	
Inherited/genetic factors Family history of heart disease – higher risk of a patient developing this if they have a male family member under 55 or a female relative under 65 with the condition	**Lifest** • Smoking • Obesity • Lack of regular ex
Diet factors High serum cholesterol (though the link between cholesterol in the diet and that in the serum is controversial)	**Envir** • Link to diabetes – Diabetics have a hi them. High blood of blood vessel wa atherosclerosis. • High blood pressu

Activity A3

The students should have little trouble identifying the signs and symptoms from t
amount of research (e.g. on zzed.uk/9415-nhs) will help them with descriptions. T
working out how they link to the cause.

It is worth noting the situations where there are similar symptoms with different c
rheumatoid arthritis and osteoarthritis, where pain and swelling have different u

Some possible answers for each sort are outlined below.

Sign / symptom	Description of sign or symptom	How is this p
Excessive urination (Type 1 diabetes mellitus) *Symptom*	Going to the toilet more than usual (sometimes a lot more than usual). Urine is typically 'watery' with little or no colour.	The high blo from the bod restore the n Excess fluid i kidneys into
Extreme thirst (Type 1 diabetes mellitus) *Symptom*	Patient reports feeling very thirsty all the time and no amount of drinking can relieve it.	Dehydration the tissues in
Fatigue (feeling very tired) (Type 1 diabetes mellitus) *Symptom*	Patient reports feeling very tired all the time, unable to motivate themselves.	Body is unab patient's diet
Weight loss (Type 1 diabetes mellitus) *Symptom*	Patient experiences rapid weight loss, despite eating normally.	Body is unab patient's diet survive, it m rapid breakd build-up of t urine.
A persistent cough (COPD) *Symptom*	The patient reports a cough that lasts more than three weeks. Coughing, especially first thing in the morning or at night.	Inflammation lungs causes
Persistent chest infections (COPD) *Symptom*	Patient presents multiple times with chest infection symptoms.	Believed to b damaging th the lungs fro treatments p immune syst further.
Breathlessness (COPD) *Symptom*	Patient has problem breathing – breath is and more rapid than would be normal at rest.	Blocked/restri of alveoli. This means l exchange and the same leve expel carbon
Swollen and deformed knuckles (rheumatoid arthritis) *Symptom*	The patient's knuckles become swollen and painful. This swelling is warm and includes redness.	Linked to the joints. As the inflammation severe defor

Continued on next page

Sign or symptom	Description of sign or symptom	How is this sign or symptom linked to the physiological cause?
Pain in the joints (rheumatoid arthritis) *Symptom*	Pain in one or more joints – usually starting with the small joints in the hands or feet and often symmetrically (both sides of the body at the same time).	Swelling in the synovia pressure on the pain re joint.
Pain in the joints – usually hips or knees (osteoarthritis) *Symptom*	Patient has persistent pain in one or more joints, made worse by movement.	Lack of cartilage in the between the two bones pain and inflammation.
Swollen joints (osteoarthritis) *Symptom*	Joints appear larger than norm and tender to the touch.	lling is linked to in fluid movement into cushion the damaged p
Grating or cracking sound on movement (osteoarthritis) *Symptom*	Also known as crepitus. The affected joints make audible noises when moved.	The effect of the two ed joint being in direct con the lubricating hyaline
Limited range of movement (osteoarthritis and rheumatoid arthritis) *Symptom*	Patient is unable to demonstrate a full range of movement in the affected joint. For example, cannot lift arm above shoulder or bend knee fully.	Swelling and pain in th limits physical movem patient unwilling to m
Stiff and inflexible muscles (osteoarthritis) *Symptom*	Patient reports difficulty in moving.	Muscles around affecte stiffen due to lack of us other joints; for examp weight on other knee.
Tremor (Parkinson's disease) *Symptom*	A persistent trembling. Usually starts in one finger on one side of the body but soon spreads to whole hand. Usually asymmetric (limited to one sid of the body).	Lack of the neurotrans wh h is linked to fine
Slow movement (Parkinson's disease) *Symptom*	Patient d noti s s very slow n A f of their limbs. Also wn as bradykinesia.	Linked to lack of dopa motor function) but als naturally take more car tremor in order to avoi
Pain in chest (angina) (coronary heart disease) *Symptom*	Mild: A feeling similar to indigestion. More severe: a heavy feeling of tightness that may spread to arms, neck, back, jaw or stomach. Triggered by exercising or during stress.	Reduced blood supply blocked coronary arter
Heart palpitations (coronary heart disease) *Symptom (but can also be a sign if doctor notices with stethoscope)*	A heartbeat that suddenly becomes more noticeable. Increased heart rate (tachycardia).	Various causes but com valve problems (atrial the heart compensating
Breathlessness (coronary heart disease) *Symptom*	Difficulty breathing. This worse with exerci	h art is not pumping builds up in the lungs, breathing.
Urinating blood (prostate cancer) *Symptom*	The ppears pink or red.	The tumour is causing urinary tract and the fl damaging the tissues o

Continued on next page

Sign or symptom	Description of sign or symptom	How is this sign or symptom linked to the physiological cause?
A fasting blood glucose over 7mmol/L (diabetes mellitus) *Sign*	The doctor has asked the patient to fast for 9–12 hours (usually overnight) and repeated a random blood glucose test. This has come out as higher than 7mmol/L and may be unchanged from previous test.	If the patient is capable of normal glucose metabolism, blood gluc significantly with an ov glucose in the blood is t cells to use to make ene a sign that either there i or that insulin is ineffec
Problems with urination (prostate cancer) *Symptom*	Patient either experiences restricted flow of urine or has a constant urge to go to the toil	Restricted flow caused b prostate impeding urin s put pressure on the ncreased need to urinat
Serum sample shows h er levels of prostate spe antigens (prostate cancer) *Sign*	Doctor performs a blood test which is checked for PSA and shows an elevated level.	PSA is measured in ng/ expressed by normal an the prostate. An elevat prostate may be cancer counts as elevated varie test is not necessarily c be said that any value a 'elevated' but this has s men with lower levels h have prostate cancer.
MRI scan shows no sign of vascular damage or brain damage to explain patient's tremors (Parkinson's disease) *Sign*	The MRI scan uses magnetic resonance to visualise the area of the body the doctor is interested in and check for abnormalities. A 3D computerised image can be produced to help diagnosis.	This is a negative test in some of the other possib disorder. If none of the are present there is a hig idiopathic Parkinson's.
Peak flow is lower than expected for the patient's age, height and gender (COPD) *Sign*	The patient is asked to bre th as hard as the n peak flow n and the peak flow is recorded. This test is repeated three times and the highest value recorded.	he ideal result varies b normal volume of the p can vary based on age, g a chart is used to find o value should be. A low value indicates low lung imply COPD but can al cancer or asthma.
Blood pressure higher than 140/90 (coronary heart disease) *Sign*	Doctor uses a sphygmomanometer to measure systolic and diastolic blood pressure and it comes out as 'high' on a blood pressure chart (usually higher than 140/90).	Blood pressure is an ind wrong with the circula atherosclerosis and/or a elasticity in the blood v
Serum tests positive for rheumatoid factor (RF) (rheumatoid arthritis) *Sign*	Doctor takes a blood sample via venepuncture and sends it to a lab for testing for RF.	A positive test for RF is patients with rheumato Therefore, a strong indi ns definitive, especi A have tested positive
Chest pains / angina (coronary heart disease) *Symptom*	Patient reports a f of tightness or a feeling t, especially wing exercise/exertion.	Blocked coronary arter supply / oxygen / gluco meaning less efficient fu when exerting.

Continued on next page

Sign or symptom	Description of sign or symptom	How is this sign or symptom linked to the physiological cause?
Erectile dysfunction (prostate cancer) *Symptom*	Patient reports issues with sexual performance, specifically achieving and maintaining an erection.	Issues linked to the gro[illegible] and restriction of the b[illegible] penis. Can also be linked to d[illegible] damage to blood vessel[illegible] caused by high blood g[illegible]
Ketones in the urine (diabetes mellitus) *Sign*	Doctor performs a urine test using a chemically treated dipstick specific to ketone[illegible]	The presence of ketones[illegible] the urine is a sign of ke[illegible] when the body has no g[illegible] [illegible]ing energy (in the [illegible] [illegible]ocked in the blood) an[illegible] rapidly, creating toxic w[illegible] (ketones).

Section B activities

Activity B1

What methods can you use to investigate and diagnose physiological disorders?

This activity is a general, whole-class initial assessment to establish what the stud
they will all know something of the process of dia no from personal experienc
teacher, it is your role to refine their id t misconceptions and fill in gaps
come up with include:

- Patien y - escribing the symptoms, asking about alcohol/tobacco use
  asking know any family members with long-term conditions
- Basic cardiovascular measurements – heart rate, blood pressure, using a stet
- Basic respiratory system measurements – breathing rate, peak flow, using a s
  (auscultation)
- Urine tests – glucose, ketones, proteins (albumin)
- Blood tests – full blood count (FBC), blood glucose, liver function, kidney fu
- Imaging methods – MRI, CT, PET, X-ray, etc.

Common misconceptions include assuming there is only one type of blood/urine
types of imaging method – for example, not knowing the difference between an M

This exercise might encourage students to open up about experiences with doctor
their family have had. Obviously, it is necessary here to be sensitive to these stor
feel pressured to share while also highlighting that those pe nal experiences ar
how disorders are diagnosed.

Activity B2a

This activity should link the discussions in B1 to the case studies and consider ho
symptoms presented to the final diagnosis using the tools discussed in B1. Below
range of investigation methods used in the case studies that students might come

Disorder:		
Investigation method	**Description**	**How**
Urin	Using a chemically treated 'dipstick' that is dipped into a sample of urine to indicate presence of glucose, ketones and protein in the urine.	The pres protein i somethin damage and/or k diabetes
Blood glucose test	A drop of blood is applied to an electronic meter (or to an enzyme-treated strip that is inserted into the meter). Gives a reading of blood glucose in mmol/L.	Normal l 3.5–6 mm range is Anything hypergly untreate Kits are a home mo
Hb	A sample of blood is taken by venepuncture and sent to a laboratory. The blood is tested for the level of glycated haemoglobin. This is the percentage of haemoglobin protein molecules that have glucose molecules attached to them.	Is indica protein g linked to diabetes. itself har the kidn because when the Howeve the blood month p whether single po or just ar diagnosi monitori
Fasting blood glucose test	After a blood glucose test, the patient is told to fast for a period (usually 12 hours / next morning) before a repeat test is performed	If the pat glucose noted in be seen t the time of diabet A value fasting is

Continued on next page

Disorder:		
Investigation method	**Description**	**How does this help diagnose the disorder?**
C-peptide test	A blood sample is taken and sent to a laboratory for testing. This test looks for the levels of a protein chain (c-peptide) linked to the manufacture of insulin in the β cells of the islets of Langerhans in the pancreas.	If c-peptide is absent or showing unusually low level patient has type 1 d unable to produce i If c-peptide levels a indicates they can p that insulin is ineff resistance and, the diabetes.
MRI	Uses strong magnetic fields and radio waves to visualise tissues of the body. The information is translated into a 3D image using computer.	Shows up any abno including tumours, blood vessels and b
X-ray	Uses ionising radiation to visualise tissues. Most useful for 'hard tissue' (such as bone) but can be used to see other things.	Can show damage t osteoarthritis. Tumours and infect show up on a ches
Ultrasound	Uses ultrasound radiation to create an image of soft tissues in the body.	Allows visualisatio (organs, tissues) an spot abnormalities pregnancy but has diagnoses, especia methods are not av compliance or cost
Patient history	Doctor talks to the patient, asking questions about their lifestyle and family situation.	Used to identify po might help the doc what the symptom case of two or mor symptoms, this mig towards one option
Physical examinati	Doctor examines the patient's body – looking for rashes, injuries, deformations, movement issues and similar.	Can spot a specific might help disting disorders with simi also help diagnose Parkinson's or oste examining the way
Biopsy	A tissue sample is taken from a suspected tumour and sent to a laboratory for analysis.	Can determine wh tumour and, if so, malignant. Can als aggressive it is bas seen to be growing

Activity B2b

Comparison is one of the more difficult BTEC criteria to do at pass level, and many describing, or even just identifying, when faced with it. This activity is designed to is expected in this task. Some example similarities and differences for different dis

Type 1 diabetes	Parkin
Similarities	**Di**
Both conditions involve patient history being taken. This may establish any genetic link which can be present in both.	Existence of a definitive te methods to measure blood high, it is very likely it is o Parkinson's can only be di possible causes of Parkinso with levodopa to show im

Rheumatoid arthritis	Oste
Similarities	**Di**
Both might involve the patient being asked to perform simple tasks in order to establish extent of problem and what basic needs the patient might have.	Rheumatoid arthritis can b tests to check for specific m example, c-reactive protein Osteoarthritis cannot.

Rheumatoid arthritis	Parkin
Similarities	**Di**
Both involve the patient being asked to perform some basic tasks to establish the extent of the mobility and locomotion	Parkinson's diagnosis can b (levodopa) to see whether t confirm idiopathic Parkins this way.

The second half of this exercise is aimed at the merit and distinction criteria on th
work out possible advantages and disadvantages to the methods used to be at a l
merit. Adding in more discussion of the evidence behind their reasoning for usin
presenting a conclusion based on this evidence and correctly citing sources to sho
from turns this into a distinction level (justification).

Example answers are shown below:

	Advanta	D
Urine test (type 1 diabetes mellitus)	Quick and simp[illegible] with an easy visual res[illegible] require much specialist [illegible]g, can be done by the patient. Cheap to perform (a box of 100 can cost between £10 and £15). Non-invasive – does not require any blood sample or surgical procedure. Therefore, patient compliance is high. A single strip can be used to test for more than one sign (e.g. protein and/or ketones).	Indirect method – d[illegible] blood glucose but th[illegible] Shows what the blo[illegible] several hours ago. Measurement is (us[illegible] value but is often e[illegible] +++.
Blood glucose test (type 1 diabetes mellitus)	Quick and simple test, can be performed by the patient. Gives an immediate result (less than 30 secon[illegible] in some devices) showing what the pa[illegible]ent's blood glucose is at the mom[illegible]nt of testing; therefore, up-to-date information. Ri[illegible]sult which can be recorded and [illegible]d to show trends. Many modern monitors record data that can be transferred to a computer for analysis of trends.	The test requires bl[illegible] fingerprick. This le[illegible] • Pain for the pa[illegible] long term (bru[illegible] from long-term[illegible] • Patient non-co[illegible] squeamish ab[illegible] • Potential infec[illegible] in some circum[illegible] Gives only a single [illegible] requires multiple te[illegible] days/weeks/month[illegible]
HBa1C (type 1 diabetes mellitus)	Gives an 'average' of blood glucose over three months, thereby allowing an idea of overall control and trends rather than an immediate 'in the now' value.	Requires blood to b[illegible] or fingerprick. Venepuncture requ[illegible] be uncomfortable fo[illegible] with needle or bloo[illegible] [illegible]f fingerprick testing required is more th[illegible] test. This means th[illegible] lot to extract the req[illegible] painful.

Continued on next page

	Advantages	Disadvantages
X-rays (osteoarthritis and rheumatoid arthritis)	Relatively cheap compared to other imaging methods such as MRI. Gives a visualisation of the joint. Can be used to show the patient what the exact issue is when discussing treatment options.	Does not give a direct diagnos merely allows elimination of o pain and swelling. Has some health risks due to e – patients are limited as to the procedures they may have pe
MRI (Parkinson's disease, osteoarthritis, prostate cancer)	Gives a clear, 3D, computer-generated image of the structures (organs and tissues) within the area scanned. Can be used to specifically locate possible issues in the region selected. For example, while looking for the cause of one disorder, another problem may be observed.	One of the more expensive im such, it is often used sparingly The equipment is noisy (patie headphones inside the machi Patients with claustrophobia n this procedure due to it being In Parkinson's, it is used to el rather than give a direct diag
Tumour grading (prostate cancer)	Allows an easy assessment of the tumour that can be understood by the patient. Standardised guidelines (published in medical textbooks) are used to make the assessment as repeatable and standardised as possible.	Only four categories – while s allow much differentiation or (grade 1.5, for example). Subjective. Despite standardi still largely subjective and, th user bias. Training needed to

Section C activities

Activity C1

Which question is asked of which students can be determined by student ability a
As a teacher, you can choose to ask more than one question of each student if you
sizes, for example). You can also spread this activity out over a number of session
in a reasonable time. For example, you can make it part of a regular starter and/o

These are just some examples of the answers that students might come up with fo

Treatment	Disorder	How it helps	
Levimir	Type 1 diabetes mellitus	12 hours of long-term basal insulin effect	Overdos Patient c
Tresiba	Type 1 diabetes mellitus	24 hours of long-term basal insulin effect	Overdos Patient c
Novorapid	Type 1 diabetes mellitus	Lowers blood glucose within 10 minutes of injection	Overdos Patient c
Walking stick	Rheumatoid arthritis / osteoarthritis	Assists mobility	Possible used
Capsaicin cream	Rheumatoid arthritis / osteoarthritis	Pain relief in a targeted area	Can irrit and red
Naproxen	Rheumatoid arthritis / osteoarthriti	Anti-inflammatory pain relief	Indigest ears
Codeine	Rheumatoid arthritis / osteoarthritis	Analgesic pain relief	Addictiv pains, sw
Levodopa	Parkinson's disease	Is converted to dopamine when digested	Mild na blurred heartbu
Ibuprofen	Rheumatoid arthritis / osteoarthritis	Anti-inflammatory pain relief	Potentia
Insulin pump therapy	Type 1 diabetes mellitus	Gives constant basal level of insulin and can be triggered to release more (bolus) when a button is pressed	Overuse Possible insertio
Wheelchair	Rheumatoid arthritis / osteoarthritis	Assists mobility	Possible used
High-intensity ultrasound	Prostate cancer	Uses ultrasound to heat up a targeted area of tissue causing cell death	Side effe dysfunc (channe system)
Softened food	Parkinson's disease	Assists patients who have trouble chewing and swallowing	Can be Needs

Treatment	Disorder	How it helps	Issues / Side effects
Acupuncture	Rheumatoid arthritis / osteoarthritis	Holistic therapy for pain relief	Not covered by N
Physiotherapy	Osteoarthritis	Exercises to help strengthen muscles around a joint in order to offset effects of osteoarthritis	Patient compliance carry out exercises
Surgery (radical prostectomy)	Prostate cancer	Removes prosta	If cancer has meta work. Risks of su more erectile and as patient unable t
Large-handled toothbrush	Parkinson's di Rheumatoid arthritis / osteoarthritis	Easier to handle and use by those with tremor or stiff fingers	None
Mobility scooter	Rheumatoid arthritis / osteoarthritis	Mobility assistance	Possible feeling of used
Speech therapy	Parkinson's disease	Speech problems are a common symptom of Parkinson's. Therapy helps to retain speech.	Patient compliance difficult
Exercise	Type 1 diabetes mellitus Rheumatoid arthritis / osteoarthritis Coronary heart disease	Maintains a healthy body mass which is helpful for improving control (diabetes). Strengthens mu around nt to obility steoarthritis).	Patient compliance significant lifestyle
Deep brain stimulation	nson's disease	Electrodes implanted into substantia nigra used to stimulate dopamine production	Patient compliance
Stairlift	Rheumatoid arthritis / osteoarthritis	Assists mobility in patient's own home	Requires significa service user's hou
Hot and cold packs	Rheumatoid arthritis / osteoarthritis	Relieves pain and inflammation in area applied	Care needed to av injury
Healthy diet	Type 1 diabetes mellitus Coronary heart disease	Improves blood glucose levels by reducing sugars and increasing long-acti carbohydrates	Patient compliance lifestyle change or
Diabetes UK	Type 1 diab	Provi rt and help to p – social and intellectual support. Also legal and political help (e.g. prescription charges).	None

Treatment	Disorder	How it helps	Issues / Side effects
Methotrexate	Rheumatoid arthritis	Blocks the receptors for the immune chemokines (chemicals that cause inflammation)	Can cause nausea, l diarrhoea and oth
Tramadol	Rheumatoid arthritis / osteoarthritis	Anti-inflammatory pain relief	Headache, dizzine anxiety, stomach p
Celecoxib	Rheumatoid/ osteoarthritis	Anti-inflammatory pain relief	Headache, abdom nausea, indigestio
Dopamine agonists	Parkinson's disease	Stimulate [illegible] of [illegible]	Drowsiness, naus mouth, dizziness, can cause confusio psychosis.
Arthritis Care UK	[illegible] rthritis / osteoarthritis	Provides social and intellectual support and help to patients	None
Viagra	Parkinson's disease Type 1 diabetes mellitus Prostate cancer	Complications of disorders can include impotence. This helps to restore erectile function.	Possible cardiovas high blood pressu
Viscosupplementation	Osteoarthritis	Restores hyaline cartilage to joint	Warmth, pain, stif swelling around t on affected joint. Nausea.
Duodopa	Parkinson's disease	A gel that is pumped into the body using a small pump device. Duodop then converted to Dopa	Blocked or disloca Inflammation or i tube, leading to sw Stomach pain, nau Worsening mover movement).
Monoamine oxidase inhibitors	[illegible] disease	Helps the body make better use of the dopamine it produces naturally	Side effects includ in mood or sleep p in blood pressure
Pelvic floor exercises	Parkinson's disease Prostate cancer	Prevent incontinence	Patient complianc exercises properly
Catechol-O-methyltransferase inhibitors	Parkinson's disease	Inhibit the breakdown of levodopa in the body, thereby prolonging its effect.	Diarrhoea, vivid d hallucinations, dro discoloration and
Radiotherapy	Prostate cancer	Uses radiation to kill cancer cells	Dryness, itching, b fatigue
Steroid injection	Osteoarthritis	Strong anti-inflammatory to reduce swelling in region injected	Can only be perfo of times per joint
Allpressin	Type 1 diabetes mellitus	Foot crea [illegible] and [illegible] on feet to [illegible] diabetic foot'	None

Treatment	Disorder	How it helps	Issues / Side effects
Chemotherapy	Prostate cancer	Drugs to attack and destroy cancer cells	Many side effects, including fatigue, hair loss, infection, bru nausea/vomiting
Transurethral resection of the prostate	Uses a thin metal wire inserted to remove parts of the prostate	Relieves pressure on urinary tract, allowing free flow of urine to be restored	Requires a genera has associated risk
Hormone therapy	Prostate cancer	Used in conjunction with other treatments such as radiotherapy. Slow growth of cancer so other treatments have a better chance of working.	Loss of sex drive, hot flushes, sweat breast growth
DAFNE	Type 1 diabetes mellitus	Training course to teach better control of blood glucose by calculating doses of insulin to suit carbohydrate value of food	Week-long course Some patients do attend.
Cryotherapy	Prostate cancer	Uses extreme cold to directly kill cancer cells; targeted to the cancer cells specifically	Nerve irritation, re tingling in the skin
Injection of platelet-rich plasma	Osteoarthritis	Promotes cartilage repair to relieve symptoms	Evidence for effica Can also cause inf and pain at the inj damage.
TENS	Rheumatoid arthritis / osteoarthritis	Uses electrical impul across the skin to re pain	Requires specialis
Shock absorbing footwear and support	Rheum arthritis / osteoarthritis	Reduces strain on damaged joints – preventing further damage from use	Can be an addition patient
Macmillan cancer support	Prostate cancer	Fundraises to pay for nursing support, specifically palliative care	None
Parkinson's UK	Parkinson's disease	Provides social and intellectual support and help to patients	None
Laser eye surgery to treat retinopathy	Type 1 diabetes mellitus	Diabetic eye disease is a form of retinopathy caused by damage to blood vessels in the retina.	Risk of additional to the laser
Friend or relative assisting with care	Parkinson's Rheumatoid arthritis / osteoarthriti Later stage cancer	Provide care where needed in home environment where patient may be more comfortable	Care can be a full- on the care needs

Treatment	Disorder	How it helps	Issues / Side effects
Care agency staff making regular visits	Parkinson's Rheumatoid arthritis / osteoarthritis Later stages of prostate cancer	Provide care where needed in a home environment where patient may be more comfortable	Can be expensive social care budget
Residential care home	Parkinson's Rheumatoid arthritis / osteoarthritis Later stages of prostate cancer	Provides care, with professional ca[illegible] hours [illegible]	Removes patient f[illegible] environment and [illegible] family. Must be paid for e[illegible] the local social car[illegible]
Changes to lifestyle (diet, exercise, smoking cessation)	[illegible]etes mellitus COPD Coronary heart disease	Can prevent or slow progression of disorder and even reverse it in some cases	Patient compliance diet, exercise and s[illegible] habits are hard to [illegible]
Statins	Coronary heart disease (currently prescribed mostly to people over the age of 40)	Reduce serum cholesterol	Side effects include throat, runny or bl[illegible] headaches, muscle increased blood gl[illegible]
Coronary angioplasty	Coronary heart disease	Surgical procedure to widen blocked or narrowed arteries	Risks linked to su[illegible] attack, damage to t[illegible] reaction to the con[illegible] damage to the skin
Infliximab	Rheumatoid arthritis	A biological treatm[illegible] used to bl[illegible] ci[illegible]okines (ch[illegible]a[illegible] hat control the im[illegible]une system). Given by injection in conjunction with another treatment.	Usually mild side skin reaction to th infections, nausea,
Tofacitinib	Rheumatoid arthritis	A jak inhibitor, usually given to patients who cannot use other treatments. Blocks chemokines (chemicals that activate the immune system).	Only recently app[illegible] NHS (2017). No side effects list side effects may n established throug system at this time
Paracetamol	Rheumatoid arthritis / osteoarthritis	Relieves pain by blocking pain receptors	Can cause severe l overdose

Activity C1 Extension

For this activity, students are looking for two things linked to the care strategies – t
them and how useful/effective they are at dealing with the issue they are intended

The problems include physical, intellectual, emotional and social issues connected
these are outlined above – side effects of drugs, feelings o[illegible]al isolation or ostra
mobility equipment, etc. Students should be goin[illegible] and deeper on these l
these problems and why they exist and h[illegible]r care strategies might be able to

For the effectiveness of [illegible]gies, students should be comparing the different
terms of ho[illegible] th[illegible]ork for the case study. For example, how well does ibup
naproxen fo[illegible]elief in osteoarthritis? Why might some bronchodilators not b
his depression, if he is on antidepressants they may not work.)

To be working at distinction level, the students need to be balancing the problem
their benefits and drawing a conclusion in which they justify the use of a selectio
They also need to support this with citations of evidence that backs up their concl

Activity C2a

Students should produce a list of care settings and professionals, which might inc

GP, consultant / named specialist doctor (e.g. neurologist, diabetologist), nurse, n
nurse (e.g. Macmillan nurse, diabetes specialist nurse), GP [illegible]ery, informal care
hospital ward, outpatient clinic, community pharm[illegible]cian's, patient's own h

Activity C2b

Some exam[illegible]larities and differences between professionals and care setting

Diabetes and osteoarthritis:

- Type 1 diabetes will always require a referral to a consultant as soon as a dia
will only be referred if it is serious.
- Both require long-term access to supplies of drugs prescribed through their G
community pharmacy.

Prostate cancer and diabetes:

- Diabetes is a lifelong condition that will require access to treatment services
Prostate cancer, while sometimes terminal, has potential to go into remission
professionals or services.
- Can also consider differences between formal and in[illegible]l carers and care s
differences between home care and residenti[illegible]ered care.

Activity C2 Extension

This activity will allow the students to assess and justify the care settings for the c
As for previous activities, to assess they need to establish strengths and weakness
and settings. For example:

The strengths of a GP are the broad knowledge of all c... s, allowing them to
services by narrowing down possibilities. Their w...ak... is that they do not hav
conditions and are not necessarily up t... d... the most recent research into spe

A consultant, on the o... ...has specialist knowledge of their particular area
on recent r... a... how it impacts diagnosis and treatment of that disorder. H
of them ava... nd they have limitations in cases involving other disorders.

A community outpatient clinic is more accessible than a hospital-based clinic; mo
the clinic run by a consultant or specialist nurse in their local GP surgery than the
may be a distance away for many). However, the logistics of setting up such a se
especially consultants) might be more problematic and the GP surgery will not ha
services (such as laboratories, radiology equipment) as the hospital.

To justify, the students should be linking the above assessment back to their case
(with appropriate evidence cited) why their patient would benefit from that settin
of conclusions being drawn from the arguments presented should also be seen. F
(Jones et al., 2018) has shown that patients are more likely to attend a service base
pharmacy than a hospital. The article states that the most common reason given b
public transport to and from the hospital. Rose, with her m... ...ity issues, is more
service more accessible.'

Section D activities

The answers to the activities in this section should mostly be found in the previou
strategies used for each disorder. This section is all about applying the knowledg

If students have completed all previous sections correctly, they should have a set o
impact of a disorder on an individual and the variety of ways in which those issu
intervention or social care. If they have completed ext[illegible] activities, they may
which strategies are currently considered the most effective, and why.

The role plays allow the stude[illegible] to focus on the specific issues and lifestyles of th
understand why specific strategies may or may not be useful for them. This is an
as it is all about empowering the patient to make their own decisions about their

In addition to completing a care plan template (either the one supplied or one of t
perform their role play in front of the class and be assessed on it by either the teac
plays could also be recorded as part of the evidence for the assignment. Students
using blogging services where they include details of the case study and the disor
recordings/videos of the role plays and the resulting final care plans and reviews.
course.

Activity D1a

In this role play, the students carry out the initial assessment process of the patien
plays the case study patient, and the other a professional tasked with making this
occupational therapist, care worker, specialist nurse, etc.).

Between them, the students should come up with a list of [illegible] needs that patient
physical symptoms, they should identify such issues:

- Meera's emotional bullying and poor [illegible] attendance because of her emba
and the various lifestyle things teenagers like to do that may be impacted by
- Rose's charity and [illegible] work, which is an important part of her sense of se
arthriti[illegible]
- Vijay's [illegible] depression due to his unemployment and how this may be exa
Depending on how they wish to go with him, either in this initial assessment
also examine the consequences of a terminal diagnosis for his prostate cance
ended). This will increase the emotional impact even more and lead into a re
- Rex's need to do something to 'keep himself busy' which, like Rose, is part o
not possible due to his condition.

Having completed this, the students should have a list of needs they can add to th
table in D2.

Activities D1b and D2a

This role play takes place following a period of research in [illegible]ch both students w
above and consider appropriate strategies. The discussion should be focused on wh
empower them, which is why the student playing the patient needs to come to th
about what they think they want. [illegible] discussed in the brief, include a co
NICE does not give approval for alternative therapies or even refusing a specific t
side effects or social [illegible]

At the end of the role play, the students should have a list of care strategies that t
that patient which can be added to the second column of the care plan table, linke
the third column, they should record a reason why this care strategy is important
resolving the care need.

Together, D1a and D1b fulfil the requirements for P5, P6 and P7 on the assignmen

Activity D2b

This role play fulfils the requirements for M4, a review of the care plan to improve

There needs to be at least one review cycle covered in this exercise though ideally t several in order to see the development of the condition over time. In the real wo not lead to any significant change. Rather than look at these 'nothing different' re situation in which there has been some lifestyle change or change in the impact th Some options for the case studies are given below but students are free to interpre and suggest possible ways for the story to progress.

Meera – a common issue with teenage girls is refusing to inject insulin because hi weight loss. Either part of that or some other inability to cope with a four-inje blood gluco HbA1c levels might be higher than they should be. In a review even to insulin pump therapy, might help here. A review could also be done muc to elderly) when she has developed one or more of the secondary complications a strategies for those. For example, loss of a leg, blindness or kidney failure. This i younger age if she is not compliant with her regime.

Rose – osteoarthritis and rheumatoid arthritis are both progressive diseases so the to get worse and require greater assistance as she gets older. She could develop i another age-related disorder that limits some of the care strategies she is using an dementia or stroke could require modification of her care plan.

Vijay – there are two possible outcomes for Vijay's prostate cancer. One is he is t treatment when his cancer goes into remission. The other is the cancer is judged t scope for reviews of the care plan within that. For example, the first care plan cou (common in cases of prostate cancer). However, as his cancer progresses the revie other more extreme measures (chemotherapy or radiotherapy) before determinin recommending palliative care. Consider also changes in his psychological and en factors.

With regards to his COPD, what if he cannot give up smoking, or refuses to? How given that some medications require this in order to work?

Rex – Parkinson's is a progressive disorder with no cure. Therefore, Rex's review progress of the symptoms and how they affect his life. Like Rose, he will need mo older, and changes to his care plan to reflect these changing needs. An added com development of another age-related disorder which might impact the care plan. A develop an age-related disorder that might make her less capable of being his car a home. Finally, what happens if he has another heart attack or (as may happen g disorders) a stroke? This is especially interesting if the students decide (which th actually has vascular parkinsonism caused by a previous stroke.

Activity D2 Extension

This activity links to the distinction criteria (D3) which requires students to justify they have chosen for the case study.

As before, students should be able to get a lot of the information they need for thi and the notes they made from the role plays.

To gain a distinction, students need to be building strong arguments, with evi sources, to support why they have chosen the recommendations on their plan. Th linked to the specifics of the case study and the context of the plans and reviews t activities in section C would have looked at a broad range of care strategies, this w this case study. There will be some crossover between these activities, but student