



Accredited

**OCR LEVEL 3
CAMBRIDGE TECHNICAL
CERTIFICATE/DIPLOMA IN
HEALTH AND
SOCIAL CARE**

PHYSIOLOGICAL DISORDERS

J/600/8968

LEVEL 3 UNIT 12

GUIDED LEARNING HOURS: 60

UNIT CREDIT VALUE: 10

PHYSIOLOGICAL DISORDERS

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LEVEL 3 UNIT 12

AIM OF THE UNIT

The human body is a complex machine performing a multitude of functions every day. Like any machine it can malfunction, possibly as the result of an inherent genetic error, an infection or as a consequence of lifestyle choices, occupations or environmental exposure to harmful agents. Or, as a result of the natural ageing process, the body systems simply become worn out. These malfunctions can be referred to as physiological disorders or dysfunctions. Some will have little impact on either daily life or lifespan whilst others will result in dramatic life changes and a possible shortening of life. This unit is designed to allow learners to gain an understanding of some of the more common disorders, their causes, symptoms, diagnoses and effects on the lives of individuals. The learners will identify appropriate care pathways and strategies to help affected individuals lead as normal a life as possible and maintain their independence. They will gain an understanding of the people involved, the types of support available and how this can provide seamless care.

PURPOSE OF THE UNIT

Learners are likely to be pursuing careers in the health and social care sector, be on placements or have part-time jobs such as health care assistants, any of which are likely to put them in contact with people of all ages that have developed a physiological disorder. Alternatively they may have affected family or friends and already be involved in their care. This unit can build on other units within a programme dealing with either the functioning of body systems or care practices to enable learners to understand the consequences of body systems failing, as well as gaining some insight into what may have caused the disorder. It is not essential to have studied other relevant units as this is a free standing unit. Learners will investigate two disorders, their symptoms, effects on individuals and their diagnosis.

They will have the opportunity to learn about the various possible diagnostic techniques and the practitioners involved. Learners will discover that not all investigations can supply an instant diagnosis and that often diagnosis is a drawn out process involving the elimination of other conditions. Learners will also appreciate that the availability of both diagnostic tools and subsequent treatments vary across regions. In the UK this is often referred to as the 'Postcode lottery'. Learners will also have the opportunity to explore the roles of those carrying out diagnostic investigations, how individual variation may distort results and how human error can result in misdiagnosis.

The unit encourages an understanding of the care pathways relevant to those individuals with disorders and the roles of practitioners involved in these care pathways. Learners will gain knowledge of the coping strategies and treatments that can be used to support individuals with each physiological disorder studied, allowing the affected individual to maintain independence and quality of life. They will gain an understanding of the National Standards and the role of NICE in ensuring that there is a national uniformity in treatment and monitoring. Learners will have the opportunity to study the benefits of partnership working and how this is intended to provide seamless care. They will also be able to investigate the use of complementary therapies and how they can be used to work alongside orthodox medicine to facilitate care. Learners will also have the opportunity to study the role of the third sector, e.g. charities, support groups, and private care in maintaining the quality of life for both those affected by the disorder and their families.

ASSESSMENT AND GRADING CRITERIA

Learning Outcome (LO)		Pass	Merit	Distinction
The learner will:		The learner can:		
1	Understand the nature of physiological disorders	P1 explain the nature of two named physiological disorders	M1 assess the impact of disorders on the daily lives of individuals	
2	Know the processes involved in the diagnosis of physiological disorders	P2 explain the signs and symptoms related to two named disorders		
		P3 describe the investigations that are carried out to enable the diagnosis of physiological disorders		D1 describe the availability and limitations of investigations carried out to enable diagnosis
3	Be able to produce a care pathway for physiological disorders.	P4 plan a care pathway for each physiological disorder including the roles of relevant practitioners	M2 summarise the benefits of partnership working to those individuals with physiological disorders	
4	Understand the strategies used to support individuals with physiological disorders	P5 explain the care strategies that can be used to support individuals with each of the physiological disorders	M3 assess the use of complementary therapies in supporting individuals with physiological disorders	D2 evaluate the support that may be provided by both statutory and non-statutory provision

TEACHING CONTENT

1 Understand the nature of physiological disorders

- *Physiological disorders* (e.g. diabetes (type 1 or type 2), coronary heart disease, stroke, hypertension, COPD, cystic fibrosis, asthma, Parkinson's disease, dementia, motor neurone disease, multiple sclerosis, arthritis, osteoporosis, Crohn's disease, celiac disease, inflammatory bowel disease, kidney disease, liver disease, cancer)
- *Nature of the disorder*: causes (e.g. inherited traits, lifestyle choices, occupation, diet, environmental, auto-immune, infection; changes to the relevant physiology of the body systems; changes to body functions; physiological effects as a result of treatments for the disorder)
- *Signs and symptoms*: (e.g. observable signs of the disorders, symptoms felt and experienced by the individual with the disorder).

2 Know the processes involved in the diagnosis of physiological disorders

- *Referral*: self-referral, professional referral, referral by a third party
- *Investigations*: investigations undertaken by the individual, those carried out at a local health practice, those carried out by a local hospital, those carried out at a specialist unit
- *Investigations for each individual*: (e.g. medical history including family traits, genetic tests, blood tests, urine tests, radiological investigations, scans, organ function tests, biopsies, cognitive tests)
- *Practitioners*: GPs, surgeons, phlebotomists, laboratory workers, radiographers
- *Measurements*: (e.g. height, weight, Body Mass Index (BMI), peak flow, lung volumes, blood pressure, blood cholesterol, glomerular filtration rate, liver enzymes, glucose levels, bone density)
- *Limitations of diagnostic processes*: availability and cost of equipment; central location of specialist centres; differences between health providers; human error; need for replication; variation in norms; disorders that lack specific diagnostic features.

3 Be able to produce a care pathway for physiological disorders

- *Care pathway*: purpose of pathway, (e.g. assessing the care needs, primary, secondary, tertiary care)
- *Practitioners*: those involved in the delivery of the care pathway, formal and informal carers, (e.g. health visitors, nurses, occupational therapists, dieticians, physiotherapists, social workers, chiropodists, pharmacists, ophthalmists, care assistants, counsellors; involvement of other agencies such as meals on wheels, private care agencies and charities, for example, British Heart Foundation, Cystic Fibrosis Trust, British Liver Trust, Diabetes UK, Age Concern, MIND.)
- *Care strategies*: monitoring and review of care, possible changes needed to care strategy, National Standards, the role of NICE, partnership working.

4 Understand the strategies used to support individuals with physiological disorders

- *Care provision*: statutory, non-statutory (private or voluntary)
- *Care settings*: where support can occur, (e.g. home, GP surgery, health centre, hospital care, respite care, residential care, day centres, nursery care, sheltered housing, educational settings)
- *Carers*: formal, (e.g. GPs, health visitors, nurses, occupational therapists, dieticians, physiotherapists, social workers, care assistants, counsellors; informal, for example, family, friends, neighbours)
- *Care*: (e.g. medication, surgery, blood transfusion, transplant, rehabilitation programmes, aids for living, complementary therapies, advice on lifestyle changes).

DELIVERY GUIDANCE

LO1 Understand the nature of physiological disorders

Learners need to study two physiological disorders –their nature, symptoms and effects. The disorders listed in the teaching content section are only suggestions and the learners do not need to stick to this list although it should be noted that choosing a more obscure disorder may present research difficulties. How the disorders are chosen is down to individual tutors and learning groups. Learners may wish to research ones they have personal knowledge of, or involvement in. If tutors wish, then all learners could be doing separate disorders. This may make the use of visiting speakers problematic although there are general issues of care and support. Alternatively the unit could start with a group discussion on those disorders listed, the systems involved and the consequences. From this either two could be chosen or a limited choice issued. Tutors might consider giving learners a variety of disorders on which to carry out initial research with each learner reporting their findings back to the class. From this overview learners can make their choice of disorders.

It is recommended that the chosen disorders are sufficiently different to enable learners to gain an understanding of disorders relating to the anatomy and physiology of different body systems. Thought could be given to categorizing the disorders into ones that normally require minimum care and those that could be life changing. So for example a learner might end up studying coronary heart disease and multiple sclerosis or diabetes and motor neurone disease. This is in no way meant to be trivialising some disorders but there can be major differences between care needs as well as in diagnosis and treatment. It might be more stimulating for the learner to study two disorders that have totally differing effects, needs and treatment. Coronary heart disease could include the symptoms of angina or a heart attack, diagnostic blood tests, ECG traces, angiograms and treatment ranging from medication to angioplasty and coronary by-pass surgery. After-care might be limited to routine checkups and changes to lifestyle such as diet, exercise programmes and smoking. On the other hand a study of motor neurone disease or advanced multiple sclerosis might involve care needs such as domiciliary care, mobility aids, adaptations to housing and so on.

Research can be carried out via books; the Internet, for example, the NHS A-Z of Health which has case studies; personal blogs; You tube; guest speakers; family and friends. Guest speakers could either be practitioners or individuals

who are affected by the disorder(s). The learners will need to be prepared with questions and topics that they wish covered that are relevant to the contents section and especially to the grading criteria. Confidentiality must be paramount. Names and personal results, data and images should not be used unless made completely anonymous. If learners wish to include direct information from individuals with the disorder they must obtain formal consent from the individual in order to report the information. Information from relatives, friends or speakers should be in the learner's words and not merely in the form of transcripts.

This initial work can result in the production of written accounts, slide presentations or posters. Posters will need to be informative and preferably appealing. If these are then displayed in the teaching environment during the time taken to cover the unit the resulting display will act to reinforce knowledge and understanding and therefore act as a very effective learning aid.

LO2 Know the processes involved in the diagnosis of physiological disorders

Tutors may wish to use professional practitioners such as nurses, radiographers, laboratory workers, phlebotomists to come into class to provide information on diagnosis and current care pathways. If this is the case, learners must again ensure that they reproduce in their own words any information given to them by outside speakers. If possible, visits to care settings would support the information needed for this unit. Some learners may use experiences in work-placement settings as part of their evidence for this unit. Again, care must be taken to ensure confidentiality.

It is possible for learners to gain all their information for this unit from secondary research sources if primary evidence is not possible. Case studies and personal accounts are readily available either as blogs or supplied within the NHS website. Support groups and charities often have first-hand accounts from families affected by physiological disorders and a short time spent 'Googling' will be richly rewarded.

When considering diagnosis and then treatment learners could consider the availability of diagnostic testing in their area. How easy is it to get scans? How long do individuals have to wait? Do they have to travel far to a specialist centre? Are all tests and treatments available in their area? What, if any, are the advantages of using private health care? A discussion on the role of NICE, National Standards and the

'Postcode Lottery' might be appropriate at this point to demonstrate the differences in availability of treatments nationwide. Guest speakers with specialist knowledge, such as a GP might be advantageous. How useful are the tests? Are they definitive? How useful are the health scans offered by private companies? Some thought should be given to how tests relate to levels that represent norms within the population and that therefore some individuals will naturally be out of the range considered normal. The need for replication should also be discussed as should the issue of human error. Tragically there are frequent media accounts of individuals being given an all clear diagnosis only to be told at a later date that they are in fact ill. In some instances hundreds of patients have had to be recalled for further testing. A collection of such articles would be one way of making this particular point.

understand the roles of hospices, day care centres and respite care. Again much of this can be gained from guest speakers (especially in relation to complementary therapies), Internet and charity leaflets/DVDs/videos and case studies, either self generated or obtained from external sources, for example the NHS website. Guest speakers could include those that work in hospices, Macmillan nurses, Marie Curie nurses, visiting health care assistants/managers of care services, occupational therapists and health visitors. As stated previously learners should be suitably prepared with questions and should summarise any information gained rather than merely relying on transcripts.

LO3 Be able to produce a care pathway for physiological disorders

By this stage learners should have developed an understanding of the effects of each of the two disorders on the individuals, the testing and monitoring involved and the practitioners and cares involved. They should therefore be in a position to consider the design of a care pathway. Learners will establish the needs of the individual, be it surgical, advice, support or care and they will suggest which professionals are best suited to meet these needs and to which sector they belong. Class discussion, group research, visiting speakers will all help to provide suggestions and underpinning knowledge. An appropriate visiting speaker such as a health visitor, physiotherapist, counsellor, occupational therapist or a representative from social services, might facilitate a discussion on partnership working, how it is implemented and its potential benefits.

LO4 Understand the strategies used to support individuals with physiological disorders

The establishment of a care pathway will naturally lead on to an exploration of the various coping strategies and/or treatments necessary to meet the individual's needs. It would be beneficial if learners were encouraged to think beyond orthodox provision but consider complementary therapies and the support given by charities/support groups. This will allow them an opportunity to achieve the higher grading requirements. Learners should also consider the needs of family members as well as those of the individual and to

ASSESSMENT GUIDANCE

One or two major written assignments could form the basis of assessment for this unit, with learners investigating two individuals with different physiological disorders. However, if preferred, assessment could be through a series of 'mini' assignments. Evidence is likely to be in the form of a structured report on each chosen individual. Alternatively information could be supplied as leaflets aimed at individuals affected by physiological disorders and their families. Again the use of personal photographs should be discouraged and clinical reports and images are not expected to be included. Data may be quoted within the report, and its interpretation included in the written account, but care should be taken at all times to maintain the confidentiality of all data collected in order to maintain the anonymity of the individuals involved.

P1 and P2 – Could be tackled together as they both require learners to explain the physiology of the disorders in terms of the systems involved, the causes of the disorders and the signs and symptoms of each. This could be presented as a written report, information leaflets, descriptive posters or presentation slides.

M1 – Could be covered as case studies covering PIES and assessing the effects on daily life of the individuals.

P3 – The same format described for the earlier pass criteria could be applied but an expansion on the P3 investigations would be needed to cover the requirements for D1 involving the limitations of the information provided by diagnostic techniques. Case studies could again be generated to illustrate the availability of appropriate diagnostic investigations. Variations in the parameters measured in tests could be investigated and reported on to emphasise that the norms used for diagnosis are to some extent arbitrary and therefore have limitations of usefulness and accuracy. Media articles on misdiagnosis through human error in interpreting data/specimens/biopsies could be researched and summarised.

P4 – Requires learners to use the information they have gathered to plan a care pathway for each of the two disorders they have investigated. Care pathways can be submitted as flow charts but must include written information about the practitioners that would be involved at each stage.

M2 – Learners will need to produce a short written report or a series of slide presentations that summarise the benefits of partnership working. This will need to show some understanding of the processes involved in this concept.

P5 – Evidence needs to include an explanation of the care strategies including treatments, care and support that would be best used to support the individuals with each of the disorders the learners are investigating. This again could be written reports, a slide presentation or advice leaflets.

M3 – Learners need to extend their descriptive work and provide evidence that demonstrates their ability to discuss assess the use of complementary therapies. This could be incorporated into the evidence generated for P5 or provided as a separate report, presentation or leaflet. As the use of complementary therapies is likely to be similar for both disorders a single generic account is sufficient and separate accounts covering both disorders are not necessary.

D2 – There needs to be some evidence present of the evaluation of the support provided by both statutory and non-statutory provision. This again could take the form of a generic assessment of the strengths and weaknesses of both types of provision with examples relevant to both the individuals studied. This may well be based on personal experiences obtained through either primary or secondary research. It is likely to be in the form of a written report.

SUGGESTED ASSIGNMENTS

The table below shows suggested assignments that cover the pass, merit and distinction criteria in the assessment and grading grid. This is for guidance and it is recommended that centres either write their own assignments or adapt any Cambridge Assessment assignments to meet local needs and resources.

Criteria	Assignment title	Scenario	Assessment
P1, P2, M1	An explanation of the nature, symptoms and effects of two physiological disorders.	Information leaflets to be provided to the families of two individuals affected by two different physiological disorders.	Written reports, posters or leaflets on two physiological disorders.
P3, D1	An exploration of the investigations used to diagnose the two physiological disorders and their availability and use.	Advice to be given to each of the individuals and their families on the methods used to diagnose the disorders and how, when and where they are able to access them.	Leaflets, written reports or case studies to explain the methods, measurements and tests used to diagnose the disorders, how accessible they are and their limitations.
P4, M2	Plan an appropriate care pathway for each individual with a disorder indicating the roles of relevant practitioners together with an assessment of the benefits of the practitioners working together.	The learner is working for agencies that support individuals with physiological disorders and their families and is required to explain the possible care and support available.	Two flow diagrams or posters fully annotated to show both a suitable care pathway and the practitioners involved.
P5, M3, D2	An analytical exploration of suitable care strategies used to support each of the individuals from both statutory and non-statutory providers including the use of complementary therapies.		Written reports or advice sheets on appropriate care strategies for each disorder together with generic information or comments on the use of complementary therapies and the strengths and weaknesses of both types of provision.

RESOURCES

Text books

- Chitty A and Dawson V - *Complementary Therapies: The Essential Guide* (Need2Know 2011) ISBN-10: 1861440987
- Clancy J and McVicar A – *Physiology and Anatomy: A Homeostatic Approach* (Hodder Arnold, 2002) ISBN 9780340762394
- Gilbert P – *A-Z of Syndromes and Inherited Disorders* (Nelson Thornes, 2000) ISBN 9780748745296
- Gould F – *Anatomy and Physiology for Holistic Therapists* (Nelson Thornes, 2001) ISBN 9780748758425
- Jenkins M – *Human Physiology and Health* (Hodder and Stoughton, 2000) ISBN 9780340658529
- Le Quesne S and Beckmann H- *Essential Guide to Holistic and Complementary Therapy* (Thomson Learning, 2005) ISBN-10:1844800261
- Mader S – *Understanding Human Anatomy and Physiology* (McGraw, 2004) ISBN 9780071111607
- Minett P, Wayne D, Rubenstein D – *Human Form and Function* (Hyman, 1989) ISBN 9780713527148
- Seamons S *Applied Health & Social Care: A2 Student Book OCR* (Folens, 2007) ISBN: 1850082480
- Smith, Tony ed, *British Medical Association Complete Family Health Guide*, (Dorling Kindersley Ltd 2000) 9780751327229
- Stoppard, Miriam, *Family Health Guide*, (Dorling Kindersley Ltd 2006) 9781405317467
- Stretch B and Whitehouse M – *BTEC Level 3 Nationals in Health and Social Care Student Book 1* (Pearson, 2010) ISBN 9781846907663
- Stretch B *A2 GCE Health and Social Care Student Book for OCR* (Heinemann,2006) ISBN 97804353529
- Toole A and S – *Understanding Biology for Advanced Level* (Nelson Thornes Ltd, 2000) ISBN 9780748739646
- Tortora G – *Principles of Anatomy and Physiology* (John Wiley and Sons, 2005) ISBN 9780471718710

Journals

- Inside the human Body' Bright Star Publishing
- Biological Science Review
- Care and Health Magazine
- Community Care Magazine
- Complementary Therapies in Nursing and Midwifery
- Disability Now
- Nursing Times
- The International Journal of Aromatherapy

Websites

- www.humangeneticsdisorders.com
- www.ornl.gov/sci/techresources/Human
- www.nhsdirect.nhs.uk
- www.nhs.uk/conditions
- www.bbc.co.uk/health
- www.bhf.org.uk British Heart Foundation
- www.bupa.co.uk BUPA
- www.cancerresearchuk.org
- www.carersuk.org
- www.dh.gov.uk
- www.iddtinternational.org
Insulin Dependent Diabetes Trust
- www.nhs.uk
- www.nhscareers.nhs.uk
- www.stroke.org.uk
- www.nice.org.uk
- www.patient.co.uk

MAPPING WITHIN THE QUALIFICATION TO THE OTHER UNITS

Unit 5: Anatomy and physiology for health and social care

Unit 11: Physiology of fluid balance

LINKS TO NOS

Partial coverage:

HSC328 Contribute to care planning and review individuals

a – contribute to assessing the needs and preferences of individuals

c – contribute to reviewing care plans



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