CAUD816

Complex Case Management

S2 Day 2017

Dept of Linguistics

Contents

General Information

Unit convenor and teaching staff
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Credit points
4

Prerequisites
CAUD814 and CAUD818

Corequisites

Co-badged status

Unit description
This unit aims to further develop skills in the assessment and clinical management of more complex cases that are seen in audiological practice. It encourages a holistic or a multidisciplinary approach to both assessment and management. Diagnostic procedures include auditory evoked potentials at cortical level that measure auditory precept and discrimination. Complex disorders include tinnitus, auditory neuropathy spectrum disorder, non-organic hearing loss, cortical deafness, vestibular rehab, meniere's disease, and auditory processing disorders.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

On successful completion of this unit, you will be able to:

Students will further develop audiological management skills of complex cases

Students will develop broader knowledge about a range of audiological conditions

Students will further develop a understanding of multidisciplinary approach

General Assessment Information

RELATIONSHIP BETWEEN ASSESSMENT AND LEARNING OUTCOMES

The assessment tasks have been designed to enable students to demonstrate critical thinking skills and problem-solving skills in the management of more complex audiological cases and to understand the broad concepts underlying noise-induced hearing loss and the relevant legislation and its application in industry.

Assessment Tasks

Name	Weighting	Hurdle	Due
Case-based discussion-Tinnitus	20%	No	9:00am 14th August, 2017
Essay	20%	No	9:00am 11th September, 2017
Case-based discussion - ANSD	20%	No	9:00am 9th October, 2017
Final Examination	40%	No	Exam Period

Case-based discussion-Tinnitus

Due: **9:00am 14th August, 2017**
Weighting: **20%**

Hear their stories…

Gaby Olthuis: https://www.youtube.com/watch?v=HGcUJ2Dg3uo

Eddy Temple Morris: https://www.youtube.com/watch?v=cHSW1JREAM4

Discuss why there is no cure for (most cases of) tinnitus and how this single statement can worsen the percept for some individuals with tinnitus. Discuss current neurophysiological models of tinnitus and how this has led to psychological and sound-based therapy treatments (such as Tinnitus Retraining Therapy and Neuromonics). Finally, describe the referral pathway that you would take if someone identified that they had suicidal thoughts about their tinnitus.

Develop a 2-page fact sheet for adults who have tinnitus who are seeking information at Macquarie University Speech & Hearing Clinic for what is tinnitus and the treatment options available.

Due: 9:00 am Monday 14th August, 2017

Presentation: 2000 words, double spaced

On successful completion you will be able to:

- Students will further develop audiological management skills of complex cases
- Students will develop broader knowledge about a range of audiological conditions
- Students will further develop a understanding of multidisciplinary approach

Essay

Due: **9:00am 11th September, 2017**
Weighting: **20%**

Complex clinical case management requires a number of skills, beyond the required technical knowledge of the profession. Further, to identify an appropriate pathway of care for the individual, it requires a process of shared decision-making with the client and their significant others. Discuss the skills needed to manage the following case and the process of shared decision-making that would be needed to identify and delivery an appropriate care pathway.

Case History:

Patrick Smith is a 55-year old engineer who lives with his wife, Alice, and his youngest daughter, Harriett. His other 2 daughters are currently living overseas. Patrick recently has started to get attacks of dizziness, where the room starts to spin, and has taken over a week off work so far to wait for it to improve. However, he had another attack just last night. He also gets a loud buzzing noise in his right ear, but this typically only lasts for about a day. He also feels that his hearing is not as good in his right ear compared to his left ear. He has not had any head injuries, been at altitude, or recently been sick. Patrick is unclear why he is seeing an audiologist, as his GP was pretty vague about what the likely problem was. He seems pretty angry by the GP's lack of information and seeks further information from you about this. He has an appointment with the ENT is a couple of weeks.

Audiometric results:

Pure tone audiometry showed normal hearing in the left ear with a mild sensorineural loss in the right ear at lower frequencies. Tympanometry and acoustic reflexes were normal. Speech discrimination was excellent at normal conversational levels in the left ear but poorer in the right ear.

Due: 9:00 am Monday 11th September, 2017

Presentation: 2000 words, double spaced

On successful completion you will be able to:

- Students will further develop audiological management skills of complex cases
- Students will develop broader knowledge about a range of audiological conditions
- Students will further develop a understanding of multidisciplinary approach

Case-based discussion - ANSD

Due: **9:00am 9th October, 2017**
Weighting: **20%**

Hear their stories:

Suzanne & Oliver http://www.aussiedeafkids.org.au/olivers-story.html

Christopher & Alice Campbell https://www.youtube.com/watch?v=TtIkh3Qdi2w

Describe the key complexities in the diagnosis and management of these children identified with auditory neuropathy spectrum disorder. What (if any) support systems are in place in Australia to enable families to make an informed decision about different management strategies?

Due: 9:00 am Monday 9th October, 2017

Presentation: 2000 words, double spaced

On successful completion you will be able to:

- Students will further develop audiological management skills of complex cases
- Students will develop broader knowledge about a range of audiological conditions
- Students will further develop a understanding of multidisciplinary approach

Final Examination

Due: **Exam Period**
Weighting: **40%**

The aim is to integrate the theory learned in this unit with clinical cases.

Format: Details to be provided closer to the examination period.

Exam Period: November to December 2017

Duration: 3 hours

On successful completion you will be able to:

- Students will further develop audiological management skills of complex cases

Delivery and Resources

Please check the timetable provided for the scheduling of lectures and the two practica for this unit.

Non-organic / Psychogenic Hearing Loss:

Required reading material:

Gelfand SA. (2009). Essentials of Audiology. Nonorganic hearing loss (chapter 14), pages 405-425.

Tinnitus:

Reading material:

Tunkel, D. E., Bauer, C. A., Sun, G. H., Rosenfeld, R. M., Chandrasekhar, S. S., Cunningham, E.

R., ... & Henry, J. A. (2014). Clinical practice guideline tinnitus. Otolaryngology-Head and Neck Surgery, 151(2 suppl), S1-S40.

Auditory Neuropathy Spectrum Disorder:

Reading material:

Starr A, Picton T, Sininger Y, Hood LJ, Berlin CI. (1996). Auditory Neuropathy. Brain; 119: 741 - 753.

Walker, E., McCreery, R., Spratford, M., & Roush, P. (2016). Children with Auditory Neuropathy Spectrum Disorder fitted with hearing aids applying the American Academy of Audiology Pediatric Amplification Guideline: Current Practice and Outcomes. Journal of the American Academy of Audiology, 27(3), 204-218.

Auditory Processing: Development, Maturation and function of the auditory processing system and its dysfunction:

Required reading material:

Musiek FE and Baran JA (2006). The Auditory System: Anatomy, Physiology, and Clinical Correlates. Chapters 7-10

Auditory Processing Disorders & Management:

Required reading material:

American Speech-Language-Hearing Association (1996). Central auditory processing: Current status of research and implications for clinical practice. Taskforce on Central Auditory Processing Consensus Development. American Journal of Audiology, 5, 41-54.

American Speech-Language-Hearing Association. (2005). (Central) Auditory Processing Disorders – The role of the audiologist [Position Statement]. Available online from www.asha.org/policy

Recommended reading material:

Baran, J.A. (2007). Test Battery Considerations. In Musiek, F.E. & Chermak, G.D. (Eds.), Handbook of (central) auditory processing disorder: Auditory neuroscience and diagnosis (Vol I). San Diego: Plural Publishing. Year 2 Handbook 2016 5

Bellis, T.J. (1996). Assessment and management of central auditory processing disorders in the educational setting: From science to practice. San Diego: Singular Pub.

Chermak, G.D., & Musiek, F.E. (1997). Central auditory processing disorders: New perspectives. San Diego: Singular Pub.

Cherry, R. (1992). Screening and evaluation of central auditory processing disorders in young children. In Katz, J., Stecker, N., & Henderson, D. (Eds.), Central auditory processing: A

transdisciplinary view. St. Louis: Mosby Year Book.

Jerger, J., & Musiek, F. (2000). Report of the Consensus Conference on the Diagnosis of Auditory Processing Disorders in School-Aged Children. Journal of the American Academy of Audiology, 11(9), 467-474.

Hall III, J.W., & Johnston, K.N. (2007). Electroacoustic and electrophysiologic auditory measures in the assessment of (central) APD. In Musiek, F.E. & Chermak, G.D. (Eds.), Handbook of (central) auditory processing disorder: Auditory neuroscience and diagnosis (Vol I). San Diego: Plural Publishing.

Hayes, E.A., Warrier, C.M., Nicol, T.G., Zecker, S.G., & Kraus, N. (2003). Neural plasticity following auditory training in children with learning problems. Clinical Neurophysiology, 114, 673-684;

Keith, R.W. (2007). Diagnosing (central) auditory processing disorders in children. In Roeser, R.J., Valante, M., & Hosford-Dunn, H. (Eds.), Audiology Diagnosis (2nd ed.). New York: Thieme.

Keith, R.W., & Anderson, J. (2007). Dichotic listening tests. In Musiek, F.E. & Chermak, G.D. (Eds.), Handbook of (central) auditory processing disorder: Auditory neuroscience and diagnosis (Vol I). San Diego: Plural Publishing.

Kraus, N., McGee, T., Ferre, J., Hoeppner, J-A., Carrell, T., Sharma, A., & Nicol, T. (1993). Mismatch negativity in the neurophysiologic/ behavioural evaluation of auditory processing deficits: A case study. Ear & Hearing, 14 (4), 223-34.

Martin, F.N., & Clark, J.G. (2009). Introduction to Audiology (10th ed). Boston: Pearson. Musiek, F.E. (1983). Assessment of central auditory dysfunction: The Dichotic Digits Test revisited. Ear & Hearing, 4, 79-83.

Musiek, F.E. (1994). Frequency (pitch) and duration pattern tests. Journal of the American Academy of Audiology, 5, 265-268.

Musiek, F.E. (1999). Central auditory tests. Scand Audiol, 28 (Suppl 51), 33-46.

Musiek, F.E., Baran, J.A., & Schochat, E. (1999). Selected management approaches to central auditory processing disorders. Scand Audiol 28 (Suppl 51), p.63-76.

Musiek, F.E., Shinn, J.B., Jirsa, R., Bamiou, D-E., Baran, J.A., & Zaidan, E. (2005). GIN (Gaps-In-Noise) test performance in subjects with confirmed central auditory nervous system involvement. Ear & Hearing, 26, 608-618.

Musiek, F.E., Chermak, G.D., & Weihing, J.(2007). Auditory training. In Musiek, F.E. & Chermak, G.D. (Eds.), Handbook of (central) auditory processing disorder: Comprehensive Intervention (Vol II). San Diego: Plural Publishing.

Shinn, J.B. (2007).Temporal processing and temporal patterning tests. In Musiek, F.E. & Chermak, G.D. (Eds.), Handbook of (central) auditory processing disorder: Auditory neuroscience and diagnosis (Vol I). San Diego: Plural Publishing.

Tonal and speech materials for auditory perceptual assessment (1992). Long Beach, CA: Research and Development Service, Veterans' Administration Central Office.

Vanniasegaram, I., Cohen, M., & Rosen, S. (2004). Evaluation of selected auditory tests in school-age children suspected of auditory processing disorders. Ear & Hearing, 25 (6), p.586-597. Year 2 Handbook 2016 6

Wilson, R.H., Moncrieff, D.W., Townsend, E.A., & Pillion, A.L. (2003). Development of a 500-Hz masking level difference protocol for clinical use. Journal of the American Academy of Audiology, 14 (1), p.1-8.

Classic site-of-lesion tests of auditory function as the foundation of diagnostic audiology:

Required reading material:

Gelfand SA. (2009). Essentials of Audiology. Behavioural tests for Audiological diagnosis (chapter 10), pages 302-331.

Recommended reading material:

Buus S, Florentine M, Redden RB. (1982). The SISI test: a review. Part II. Audiology. 21(5):365-85.

Hall, J.W. III. (1991). Classic site-of-lesion tests: Foundation of diagnostic audiology. In WF Rintelmann (Ed.) In: Hearing Assessment (2nd ed., pp. 653-678).

Harbert F, Young IM. (1968). Clinical application of Bekesy audiometry. Laryngoscope. 78(4):487-97.

Roeser, R.J., Valente, M., Hosford-Dunn, H. 2000 Audiology: Diagnosis. Theime

Fluctuating Hearing Loss:

Reading material:

Brookhouser PE, Worthington DW, Kelly WJ. (1994). Fluctuating and/or progressive sensorineural hearing loss in children. Laryngoscope. 104(8 Pt 1):958-64.

Kornel, S. (1998). Sensitivity and Specificity of Transtympanic Electrocochleography in Meniere's Disease. Acta Oto-Laryngologica, 118 (2), 150 – 156.

Soderman, A.H., Bagger-Sjoback, D., Bergenius, J., Langius, A. (2002). Factors Influencing Quality of Life in Patients with Meniere's Disease, Identified by a Multidimensional Approach. Otology & Neurotology. 23(6):941-948.

Van de Heyning, P. H., Wuyts, F., Boudewyns, A. (2005). Surgical treatment of Meniere's disease. Current Opinion in Neurology. 18(1):23-28, February 2005.

Additional Texts and/or Materials:

Axelsson, A., Borchgrevink, H.M., Hamernik, R.P., Hellstrom, P., Henderson, D., Salvi, R.J. (1996).

Scientific Basis of Noise Induced Hearing Loss. New York: Thieme Medical Publishers. RF293.5 .S26/1996

Bellis, T.J. (1996). Assessment and Management of Central Auditory Processing Disorders in the Educational Settings. From Science to Practice. San Diego, USA: Singular Publishing Group. RC394.W63 .B45/1996

Chermak, G.D. & Musiek, F.E. (1997). Central Auditory Processing Disorders: New Perspectives. San Diego, USA: Singular Publishing Group. RC394.W63 .C48/1997

Dancer, A.L. (1992). Noise Induced Hearing Loss. St. Louis, USA: Mosby-Year Book. RF293.5 .N65/1992

Estabrooks, W (Ed). (1994). Auditory Verbal Therapy: for Parents and Professionals. Washington, D.C.: Alexander Graham Bell Association for the Deaf. HV2471 .A83

Hazell, J.W.P. (1987). Tinnitus. New York, USA: Churchill Livingstone. RF293.8 .T554/1987

Katz, J., Stecker, N.A., Henderson, D. (Eds). (1992). Central Auditory Processing: A Transdisciplinary View. St. Louis, USA: Mosby Year Book. RC394.W63 .C46/1992

Henry, J.L. (2001). The Psychological Management of Chronic Tinnitus: A Cognitive Behavioural Approach Allyn & Bacon. RF293.8 .H46/2001

McPherson, D. (1996). Late Potentials of the Auditory System San Diego, USA: Singular Publishing Group. RF294.5.E87 .M39/1996

Prasher, D. & Luxon, L. (Eds). (1998). Biological effects of Noise. London: Whurr. RF293.5 .B56

Shulman, A. (1997). Tinnitus: Diagnosis and Treatment. San Diego, USA: Singular Publishing. RF293.8 .S539/1997

Tyler, R. (Ed) (2000). Tinnitus Handbook. United Kingdom: Singular. RF293.8 .T565/2000

Vernon, J & Moller, A. (1995). Mechanisms of Tinnitus. Boston: Allyn & Bacon. RF293.8 .M43/ 1995

Unit Web Page:

The web page for this unit can be found at: http://www.ling.mq.edu.au/postgraduate/units/caud816/index.htm

Unit Schedule

1. Unit Overview (RB): Introduction to the diagnosis and management of the complex disorders. Review of patient-centred & person-centred care, the International Classification of Functioning & Disability, and discussion of critical thinking and teambased skills needed to diagnose and manage complex cases in healthcare.

2. Non-organic / Psychogenic Hearing Loss (PN): Diagnosis of non-functional hearing loss

and its management in the audiological setting.

3. Cortical Auditory Evoked Potentials (CAEPs) (MS): Discussion of obligatory and discriminatory cortical potentials: CAEPs, P300 and Mismatch-Negativity (MMN) potentials, the measurement technique used and their clinical application.

4. Tinnitus (CM): Epidemiology of tinnitus, known causes and possible physiological mechanisms, discussion of the neurophysiological model of tinnitus and the systems and processes involved in clinically-significant tinnitus (i.e. the development of a conditioned reflex). Management options and the measurement of outcomes using questionnaires Year 2 Handbook 2016 4 will be covered (Tinnitus Reaction Questionnaire, TRQ, and the Tinnitus Handicap Inventory, THI).

5. Auditory Neuropathy Spectrum Disorder (CM) (Online): ANSD, when first identified as a new auditory disorder, called the outcomes of ABR into question as a “paradox”. Now, considerably more is known about ANSD, its multiple sites-of-lesion and options for management. Nonetheless it continues to be a challenging problem and these challenges are highlighted within this lecture.

6. Auditory Processing: Development, Maturation and function of the auditory processing system and its dysfunction (MS): Introduction to the development and maturation of the central auditory system, including a discussion of the effect of a peripheral lesion or environmental influences on the development of the cortex. Overview of the anatomy of the auditory pathway from the cochlea to the cortex and the associated areas and the proposed function of each. Discussion of the concepts of information processing and parallel processing in the auditory system and the physiological mechanisms underlying: feature extraction; horizontal and vertical sound localisation, efferent reflex arcs of the auditory system (focussing on the acoustic reflex and the lateral and medial olivocochlear systems), integration of auditory and visual information and linguistic processing in the auditory cortex. Discussion of the key stages in the processing of spoken language and the mechanisms which could underlie an auditory processing disorder in adults. Discussion of the need for speech tests to evaluate / diagnose an auditory processing disorder, and an overview of the different types of tests used to diagnose a lesion of the auditory pathway and the specificity of these tests.

7 & 8. Auditory Processing Disorders & Management (MS): Discussion of the tests that are currently in practice. The management strategies that are recommended and the reasoning and premise behind the theory. The lecture will present some of the research that has been undertaken to assess the efficacy of the management strategies.

9. Vestibular Rehabilitation (YFS): Introduction to the history of vestibular rehabilitation and examples of exercises and questionnaires for unilateral and bilateral vestibular loss.

10. Sudden Hearing Loss (JN): Sudden sensorineural hearing loss requires a teamwork approach between multiple health professionals including an audiologist, ENT, and possibly psychologists. This lecture discusses the potential cause, importance of immediate medical action, outcomes and audiological management of sudden hearing loss.

11. Classic site-of-lesion tests of auditory function as the foundation of diagnostic audiology (MS): Discussion of the classic site-of-lesion tests of audiometric tests used to assess auditory recruitment, adaptation & temporal processing.

12. Hidden Hearing Loss (DM): Discussion of the causes and clinical implications of “hidden hearing loss”.

13. Fluctuating Hearing Loss & Unilateral Hearing Loss (JN) (Online): Discussion of the audiological diagnosis and characteristics of Meniere’s Syndrome and perilymphatic fistula and the effects of fluctuating hearing loss (as well as fluctuating symptoms of vertigo, tinnitus and aural fullness) on quality of life. Consideration of the different perspectives of medical and audiological management of Meniere’s syndrome and the need for a comprehensive approach to diagnosis and management.

The management for unilateral hearing loss is as important as is diagnosis. Currently there is some literature on the range of difficulties the loss can cause and the potential management strategies.

14. Exam Review (RB)

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central. Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy http://mq.edu.au/policy/docs/academic_honesty/policy.html

Assessment Policy http://mq.edu.au/policy/docs/assessment/policy_2016.html

Grade Appeal Policy http://mq.edu.au/policy/docs/gradeappeal/policy.html

Complaint Management Procedure for Students and Members of the Public http://www.mq.edu.au/policy/docs/complaint_management/procedure.html

Disruption to Studies Policy (in effect until Dec 4th, 2017): http://www.mq.edu.au/policy/docs/disruption_studies/policy.html

Special Consideration Policy (in effect from Dec 4th, 2017): https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/special-consideration

In addition, a number of other policies can be found in the Learning and Teaching Category of Policy Central.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/support/student_conduct/

Results

Results shown in *iLearn*, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au.

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- Workshops
- StudyWise
- Academic Integrity Module for Students
- Ask a Learning Adviser

Student Services and Support

Students with a disability are encouraged to contact the Disability Service who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

Learning outcomes

- Students will further develop audiological management skills of complex cases
- Students will develop broader knowledge about a range of audiological conditions
- Students will further develop a understanding of multidisciplinary approach

Assessment tasks

- Case-based discussion-Tinnitus
- Essay
- Case-based discussion - ANSD

PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

Learning outcomes

- Students will further develop audiological management skills of complex cases
- Students will develop broader knowledge about a range of audiological conditions

Assessment tasks

- Case-based discussion-Tinnitus
- Essay
- Case-based discussion - ANSD
- Final Examination

PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based

critique of practice and theory.

This graduate capability is supported by:

Learning outcomes

- Students will further develop audiological management skills of complex cases
- Students will develop broader knowledge about a range of audiological conditions
- Students will further develop a understanding of multidisciplinary approach

Assessment tasks

- Case-based discussion-Tinnitus
- Essay
- Case-based discussion - ANSD
- Final Examination

PG - Research and Problem Solving Capability

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

Learning outcomes

- Students will further develop audiological management skills of complex cases
- Students will develop broader knowledge about a range of audiological conditions
- Students will further develop a understanding of multidisciplinary approach

Assessment tasks

- Case-based discussion-Tinnitus
- Essay
- Case-based discussion - ANSD

PG - Effective Communication

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

Learning outcomes

- Students will further develop audiological management skills of complex cases

- Students will develop broader knowledge about a range of audiological conditions
- Students will further develop a understanding of multidisciplinary approach

Assessment tasks

- Case-based discussion-Tinnitus
- Case-based discussion - ANSD

PG - Engaged and Responsible, Active and Ethical Citizens

Our postgraduates will be ethically aware and capable of confident transformative action in relation to their professional responsibilities and the wider community. They will have a sense of connectedness with others and country and have a sense of mutual obligation. They will be able to appreciate the impact of their professional roles for social justice and inclusion related to national and global issues

This graduate capability is supported by:

Learning outcomes

- Students will further develop audiological management skills of complex cases
- Students will develop broader knowledge about a range of audiological conditions
- Students will further develop a understanding of multidisciplinary approach

Assessment tasks

- Case-based discussion-Tinnitus
- Essay
- Case-based discussion - ANSD