**中山大学**

本科课程教学大纲

学院（系）医学部

课程名称 神经病学理论

**二〇二四**

**修订工作组（按姓氏笔划排序）**

冯慧宇 附属第一医院 主任医师

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课程教学大纲

（编写日期：2025年1月）

**一、课程基本信息**

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| --- | --- | --- | --- | --- | --- |
| 神经病学理论  Neurology | | | | | |
| 课程类别 | 专选 | 课程编码 | AH3058 | 开课单位 | 医学部 |
| 学分 | 1.5 | 学时 | 24 | 授课年级 | 大三 |
| 面向专业/大类 | 预防医学、预防医学（深圳） | | | | |
| 课程负责人 |  | | | | |
| 先修课程 |  | | | | |
| 课程目标 | 一般了解：  1. 神经科常用辅助检查的适应症与禁忌症：脑电图、肌电图、诱发电位、腰穿、MRI、CT、DSA等。  2. 神经科常用药物的用药原则与注意事项：脱水剂（甘露醇）、抗血小板聚集药物（阿司匹林）、糖皮质激素、抗癫痫药、抗帕金森药等。  一般掌握：  神经解剖学与神经病理生理学相关知识。  牢固掌握：  1.神经科病史采集和神经系统检查方法。  2.神经系统疾病的定位诊断和定性诊断的原则、方法。  3.神经科常见病、多发病的发病机制。牢固掌握神经科常见病、多发病的诊断与鉴别诊断、治疗：周围神经疾病（三叉神经痛、坐骨神经痛、面神经炎、吉兰—巴雷综合症），脊髓疾病 (急性脊髓炎、脊髓压迫症、运动神经元疾病)，脑血管疾病（脑出血、蛛网膜下腔出血、脑梗塞、TIA），偏头痛，癫痫，锥体外系疾病(帕金森病），中枢神经系统感染（病毒性脑炎，化脓性脑膜炎，结核性脑膜炎，新型隐球菌性脑膜炎，自身免疫性脑炎），脱髓鞘疾病(多发性硬化，视神经脊髓炎)，神经肌肉接头及肌肉疾病(重症肌无力、周期性瘫痪、进行性肌营养不良症)。 | | | | |

# 二、课程基本内容

# （一）学时分配

|  |  |  |
| --- | --- | --- |
| 序号 | 教学内容 | 学时数 |
| 1 | 第四章 神经系统疾病的病史采集和体格检查  第一节 病史采集 | 2 |
| 2 | 第四章 神经系统疾病的病史采集和体格检查  第二节 体格检查 | 2 |
| 3 | 第二章 神经系统的解剖、生理及病损的定位诊断  第一节 中枢神经  第二节 脑与脊髓血管  第三节 脑神经  第四节 周围神经  第五节 肌肉 | 2 |
| 4 | 第二章 神经系统的解剖、生理及病损的定位诊断  第六节 运动系统  第七节 感觉系统  第八节 反射  第五章 神经系统疾病的诊断原则  第一节 诊疗程序 | 2 |
| 5 | 第九章 脑血管疾病  第一节 脑血管疾病的分类  第二节 短暂性脑缺血  第三节 脑梗死  第四节 脑出血  第五节 蛛网膜下腔出血 | 3 |
| 6 | 第八章 头痛  第一节 偏头痛 | 1 |
| 7 | 第十七章 周围神经疾病  概述  第一节 脑神经疾病  第二节 脊神经疾病 | 1 |
| 8 | 第十七章 周围神经疾病  第二节 脊神经疾病  第四部分 吉兰巴雷综合症 | 1 |
| 9 | 第十六章 脊髓疾病  概述  第一节 急性脊髓炎  第二节 脊髓压迫症  第十一章 神经系统变性疾病  第一节 运动神经元病 | 2 |
| 10 | 第十二章 中枢神经系统感染性疾病  第一节 病毒感染性疾病  第二节 细菌感染性疾病  第三节 新型隐球菌脑膜炎  第四节 自身免疫性脑炎 | 2 |
| 11 | 第十三章 中枢神经系统脱髓鞘疾病  第一节 多发性硬化 | 1 |
| 12 | 第十四章 运动障碍性疾病  第一节 帕金森病 | 1 |
| 13 | 第十五章 癫痫  第一节 癫痫的分类  第二节 癫痫的诊断  第三节 癫痫的治疗  第四节 癫痫持续状态 | 2 |
| 14 | 第十九章 神经-肌肉接头和肌肉疾病  第二节 重症肌无力  第三节 周期性瘫痪  第五节 进行性肌营养不良 | 2 |
| 总计 | | 24 |

**（二）教学基本内容**

1. **病史采集和神经系统检查**

Chapter 1 History-taking and neurological examination

第一节 病史采集

Section 1 History taking

完整与确切的病史是诊断疾病的重要依据之一，神经系统疾病的病史采集方法和内科疾病相同，但重点在神经系统疾病的症状方面。A complete and accurate history is one of the most important bases for disease diagnosis. Methods of history taking of nervous system resemble that of internal medicine, but emphasize on symptoms of neurological diseases. Special attentions should be paid on symptoms of neurological diseases during history taking. 对常见的神经系统症状应重点询问，掌握头痛(部位、性质、时间、程度、伴发症状、增加或减轻头痛的因素等)、疼痛、眩晕、视力障碍、抽搐、瘫痪、睡眠障碍等病史询问要点。Master key points of history taking for headaches (location, character, duration, degree, concomitant symptoms, factors of aggravation and relief), pain, vertigo, visual disturbances, seizure, paralysis and insomnia, etc.

第二节 神经系统检查

Section 2 Neurological examination

检查应认真细致，依次自头部及脑神经开始，其后为颈、上肢、胸、腹、下肢及背部，最后为立姿和步态。Examination should be serious and detailed, which starts from head and cranial nerves, followed by neck, upper limbs, thorax, abdomen, lower limbs and back, and completes in standing position and gait examination.危重病人应根据重点检查立即抢救，然后再补充检查。Critical patients should be examined with emphasis, followed by rescue measures. Supplemented examinations could be completed after rescue.

followed by rescue measures. Supplemented examinations could be completed after rescue.

**[高级神经活动] Higher nervous function**

意识：按意识清醒水平可相对区分为清醒、嗜睡、昏睡、浅昏迷、深昏迷。Consciousness: According to the consciousness level, patients could be separated into level of sober, somnolence, stupor, slight coma and deep coma. 如伴有躁动、幻觉等精神异常者为谵妄。Patients with agitation and delusions could be considered as delirium. 注意特殊意识状态。Attentions should be paid to special states of consciousness.

记忆与智能障碍：有无认知、记忆力、理解力、定向力、计算力等智能障碍，必要时可做智力测验。Disturbances of memory and intelligence: to test whether there are disturbances of intelligent, such as cognition, memory, understanding, orientation, calculation and so on. Intelligence tests could be carried out when necessary.

语言、失用和失认：有无失语或构音障碍，有无失用和失认。Language, apraxia and agnosia: to test whether there is aphasia or dysarthria, apraxia or agnosia.

精神：有无行为、情感障碍、有无妄想、幻觉。Mental state: to test whether there are disturbances of behavior, emotion or presence of delusions and hallucinations.

**[脑神经]Cranial nerve**

嗅神经：嗅觉。Olfactory nerve: smell.

视神经：视力、视野、眼底（正常眼底、视乳头水肿、视神经萎缩）。Optic nerve: vision, visual field, fundus (normal fundus, papillary edema, optic atrophy).

动眼、滑车、外展神经：眼裂、眼球运动、瞳孔（大小、对光反应、调节反应）。Oculomotor nerve, trochlear nerve and abducent nerve: palpebral fissure, eye movement, pupils (size, light reflex, adjust reaction).

三叉神经：面部感觉、咀嚼运动、反射（角膜反射、下颌反射）。Trigeminal nerve: facial sensation, maculation movement, reflection (corneal reflection, jaw reflection).

面神经：额纹、闭眼、鼻唇沟、示齿、鼓腮、吹口哨、味觉。Facial nerve: observations of forehead lines and nasolabial groove. Ask patients to close eyes, show teeth, bulge cheek, and whistle.中枢性和周围性面神经瘫。 Test gustation. Differential diagnosis of central and peripheral facial nerve paralysis.

位听神经：听力、音叉试验（区别传导性和神经性耳聋）。Vestibulocochlear nerve: listening, tuning fork test (differential diagnosis of conductive and sensorineural deafness).

舌咽、迷走神经：发音、吞咽困难、软腭提升、咽反射。Glossopharygeal nerve and vagus nerve: pronunciation, dsyphagia, soft palate elevation, pharynxgeal reflection.

副神经：转头及耸肩。Accessory nerve: ask patients to rotate head and shrug shoulders.

舌下神经：伸舌、舌肌萎缩和颤动。Hypoglossal nerve: Stick out tongue to observe any of tongue muscle atrophy and fibrillation.

**[运动系统] Movement system**

肌营养：肌萎缩、假肥大。Muscle nutrition: muscle dystrophy, pseudohypertrophy.

肌张力：肌张力降低、增高。Muscle tone: reduced and increased muscle tension .

肌力：0~5级肌力分级法、轻瘫试验。Muscle strength: 0 ~ 5 muscle strength classification method, test of slight paralysis.

不自主运动：抽搐、震颤、扭转痉挛、手足徐动、偏侧投掷、舞蹈样动作。Involuntary movement: tics, tremor,  torsion spasm, athetosis, hemiballismus, choreic movement.

共济运动：快复轮替试验、指鼻动作、闭目难立征（Romberg征）、跟膝胫试验、反击征、起坐试验。Coordination movement: fast rotation experiment, finger-nose test, Romberg sign, heel-knee-tibia test, reociltest, sit -rise test.

步态：划圈样偏瘫步态（脑卒中）、痉挛性剪式步态（脑瘫、截瘫）、共济失调醉汉步态（小脑损害）、慌张前冲步态（震颤麻痹）、鸭步摇摆步态（进行性肌营养不良）、垂足跨阈步态（腓神经麻痹）。Gait: hemiplegic gait (stroke), Spastic scissor gait (Cerebral palsy, paraplegia), ataxia gait (cerebellar injury), festinating gait ([trembling](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [palsy](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);)), swaying gait ([progressive](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [muscular](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [dystrophy](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);)), stepsage gait（peroneal paralysis）.

**[感觉系统] Sensory system**

浅感觉：痛温觉、触觉。Superficial sensation:  pain and tempereture sensation, tactile sensation.

深感觉：关节位置觉、音叉振动觉、关节运动觉。[Deep](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [sensation](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);): joint position sense, vibration sensation, joint motion perception.

复合感觉（皮质感觉）：形体觉、图形觉、定位觉、两点辨别觉。Combined sensation ([cortex](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) sensation): graphicothesia, graphics sensation, topoaesthesia, two-point discrimination.

**[反射系统] Reflex system**

浅反射：腹壁反射、提睾反射、肛门反射、跖反射。[Superficial](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [reflex](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);)：[Abdominal](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [reflexes](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);), cremacteric reflex, anal reflex, [plantar](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [reflex](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);).

深反射：上肢：肱二头肌腱反射、肱三头肌腱反射、桡骨膜反射。 Deep reflexes: [upper](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [limb](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);): biceps tendon reflex, [triceps](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) tendon reflex, [radioperiosteal](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [reflex](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);).下肢：膝反射、跟腱反射、髌阵挛、踝阵挛。  Lower limbs: [knee](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [reflex](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);), [achilles](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [tendon](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [reflex](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);), patellar clonus, [ankle](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [clonus](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);).

病理反射:上肢：Rossolimo征、Hoffmann征、掌颌反射、 吸吮反射。Pathological reflex: upper limb：Rossolimo sign、 Hoffmann sign、 palmomental reflex、sucking reflex.下肢：Babinski’s征、Pussep’s征、Oppenheim’s征、Chaddock’s征、Gordon’s征、Schãeffer’s征、Gonda’s征. Lower limbs:Babinski’s sign、Pussep’s sign、Oppenheim’s sign、Chaddock’s sign、Gordon’s sign、Schãeffer’s sign、 Gonda’s sign.

**[脑膜刺激症]Meningeal irritation symptoms:**

颈项情况、Kernig征、Brudzinski征。[Neck](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [rigidity](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);),Kernig sign,Brudzinski sign.

**[植物神经系统]**[**autonomic**](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);)[**nervous**](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);)[**system**](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);)**：**

皮肤（色泽、温度、汗液分泌等）指甲情况大小便情况Skin (color, temperature and sweat secretion, etc.),nails situation,defecation and uination.

**教学基本要求：Basic teaching requirement**

一般掌握：病史采集和神经系统检查对诊断神经系统疾病的意义。General grasp: The significance of History-taking and neurological Examination for diagnosis of diseases of the nervous system.

牢固掌握：询问病史和病史记录的重点和方法，神经系统检查的步骤、方法。Solid grasp: Key points and methods of history-taking and history-records, as well as steps and method of neurologic examination.

**重点与难点;****Emphases and Difficulties**

本章重点与难点是神经系统体格检查的方法和意义，检查的手法必须掌握。 Emphases and Difficulties of this chapter are methods and significance of neurological Examination. Skills of examination should be mastered.

**第二章 神经系统疾病定位定性诊断**

Chapter 2 The qualitative diagnosis of nervous system diseases

第一节 脑神经

Section 1 Cranial nerves

嗅神经的解剖生理及病变时临床症状。The anatomical physiology of olfactory nerve and the clinical symptoms of the lesions. 视神经的解剖生理；The anatomy and physiology of optic nerve;掌握视觉径路各部位(视神经、视交叉、视束、视辐射、枕叶)损害的特征；To grasp the characteristics of the damage of various parts of visual path(optic nerve,optic chiasma,optic tract,optic radiation and occipital lobe);视乳头异常包括视乳头水肿(主要见于颅内压力增高的病变、视神经萎缩(原发性与继发性)的特征。Optic disc abnormalities are distinguished by papilledema (mainly in the pathological state of intracranial hypertension) and optic atrophy (primary and secondary).动眼、滑车、外展神经的解剖生理；Anatomical physiology of the oculomotor nerve, trochlear nerve and abducent nerve; 眼肌瘫痪包括周围性、核性、核间性及核上性，分别由不同的病变部位引起；According to the damage of different parts,ophthalmoparalysis can be divided into four different types that are peripheral,nuclear,internuclear and supranuclear ophthalmoplegia; 瞳孔散大和缩小的临床意义，突出脑疝和Horner氏征的表现及意义；The clinical significances of pupil dilation and divergence, the manifestations and significances of brain herniation and Horner's syndrome; 了解瞳孔对光反射、调节反射径路及临床意义。Understand pupil light reflex pathway,pupil regulating reflex pathway and these clinical significances.三叉神经的解剖生理和病变时的临床症状。Anatomical physiology of the trigeminal nerve and the clinical symptoms of the lesions. 面神经的解剖生理；Anatomical physiology of facial nerve;重点掌握周围性和中枢性面瘫的临床特点，了解Millard—Gubler综合症和Foville综合症的临床表现。Grasp the clinical characteristics of peripheral and central facial paralysis, and understand the clinical manifestations of Gubler-Millard syndrome and Foville syndrome.听神经(蜗神经和前庭神经)的解剖生理；Anatomical physiology of auditory nerve(cochlear nerve and vestibular nerve); 蜗神经损害产生耳聋和耳鸣，区别传导性和神经性耳聋；The damage of cochlear nerve can produce deafness and tinnitus, the difference between conductive and sensorineural hearing loss; 前庭功能障碍引起平衡失调、眩晕、眼球震颤等。Vestibular dysfunction causes imbalance, dizziness, nystagmus and so on.舌咽、迷走神经的解剖生理；Anatomical physiology of the glossopharyngeal nerve and vagus nerve; 真性与假性球麻痹的临床表现和区别。the clinical manifestations and the differences between true and false bulbar paralysis. 副神经的解剖生理；The anatomical physiology of the accessory nerve,一侧损害引起患侧肩下垂，转颈和耸肩无力。one side damage of it causes the side of the shoulder to droop, turning the neck and the shoulder shrug. 舌下神经麻痹的临床表现及区别。Clinical features and differences of paralysis of the hypoglossal nerve.

第二节 感觉系统

Section 2 Sensory system

除特殊感觉外，一般感觉包括浅感觉(痛、温、触觉)，深感觉(运动觉、位置觉、振动觉)、复合感觉(实体觉、图形觉、两点辨别觉、定位觉等)。In addition to the special feelings, the general feelings including shallow feelings (pain, temperature, touch), deep feeling (motion perception, location, vibration), complex sense (physical sense, graphics, two poin. 强调痛温觉、触觉和深感觉传导径路的相同与不同点。Emphasize the similarities and differences in sensory conduction path of pain sensation and thermesthesia, tactile and deep feeling. ts discrimination, positioning, etc.重点掌握体表节段性感觉分布标志(乳头平面为T4，脐平面为T10，腹股沟平面为T12及L1等)。Focus on body surface symbols of the segmental sensory distribution(the nipple plane is T4, the umbilical plane is T10, the inguinal plane is T12 and L1, etc.).

感觉障碍的临床表现有疼痛、麻木、感觉异常、感觉过敏、感觉过度、感觉倒错、感觉减退、感觉缺失、感觉分离等。The clinical manifestations of sensory disorders include pain, numbness, sensory abnormalities, feeling of allergies, feeling excessive, feeling down, loss of feeling, feeling of separation, etc.

感觉障碍的定位：斑块状(局灶、末梢和外周神经)，手套袜套样(末梢神经)，节段性(神经根)，半身型(脊髓)，交叉性(脑干)，偏身型(内囊、丘脑)，单肢型(皮层、神经丛)。Sensory disturbance location: plaque (focal and peripheral and peripheral nerve), glove-sock like (nerve endings), segmental(nerve root), body type (spinal cord), cross (brainstem), partial physique (internal capsule, thalamus), the single limb type (cortex, plexus).

第三节 运动系统

Section 3 Motor system

下运动神经元包括脊髓前角、颅神经运动核及其发出纤维组成的神经根和颅神经。The lower motor neurons, including the spinal cord anterior horn, motor nuclei of cranial nerves and their give-off fibers that are the spinal nerves and cranial nerves. 上运动神经元包括皮质脊髓束和皮质延髓束(合称锥体束)。重点掌握下、上运动神经元瘫痪的特点和鉴别。Upper motor neurons including the corticospinal tract and the corticobulbar tract(called pyramidal tract). Focus on the characteristics and identifications between the lower and upper motor neuron paralysis.

锥体外系的解剖生理；临床表现包括不自主运动(震颤、舞蹈样动作、扭转痉挛等)以及肌张力改变(增高、减弱等)。Anatomical physiology of the extracorticospinal tract; clinical manifestations include involuntary movements (tremor, dance-like action, torsion spasm, etc.) as well as dystonia (hypermyotonia, decreased muscle tone, etc.).

小脑的解剖生理：小脑损害时的临床表现，尤其半球和蚓部损害的不同症状。Anatomical physiology of the cerebellum:clinical manifestations of cerebellar damage, especially the different symptoms of hemisphere and vermis damage.

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第四节 反射系统

Section 4: Reflex system

深反射是刺激肌腱和骨膜的本体感受器所引起的肌肉收缩，亦称腱反射。Deep reflex is the muscle contraction caused by stimulating the proprioceptor of the tendon and periosteum, which is also called tendon reflex.临床上常用的腱反射有肱二头肌反射（C5～6）、肱三头肌反射（C6～7）、桡骨膜反射（C5～6）、膝反射（L2～4）、跟膝反射（S1～2）。浅反射是刺激皮肤、粘膜、角膜引起的肌肉快速收缩反应。包括腹壁反射（T7～12）、提睾反射（L1～2）、跖反射（S1～2）、肛门反射（S4~5）。 Common deep reflex in clinical practice includes biceps reflex（C5~6）, [triceps](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æœ‰é) [reflex](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æœ‰é)（C6~7）, radial periosteal reflex（C5~6), knee reflex（L2~4) and achilles reflex（S1~2).Superficial reflex is the rapid contraction of muscle reaction when skin, mucous membrane, and corneal are stimulated. It contains abdominal reflexes(T7~t12), cremasteric frelex（L1~2）, plantar reflex（S1~2) and anal reflex（S4~5).

病理反射是中枢神经系统损害时出现的异常反射。Pathological reflex is the abnormal reflection when CNS suffers from damage.临床上常用的病理反射有：Babinski征、Chaddock征、Oppenheim征、Gordon征、Schaeffer征、Gonda征、Hoffmann征。Rossolimo征。Common pathological reflex includes Babinski sign, Oppenheim sign, Gordon sign, Schaeffer sign, Gonda sign, Hoffmann sign, and Rossolimo sign. 另外，深反射亢进时，可出现髌阵挛和踝阵挛。病理反射的临床意义。In addition, knee clonus and ankle clonus will occur when deep hyperreflexia occurs. The clinical significance of the pathological reflex should be mastered.

第五节 中枢神经系统各部位损害的表现

Section 5: Presentaions of damage of each part of central nervous system

额叶损害临床特点：精神症状，额叶性共济失调，语言及书写障碍，共同偏视，瘫痪，强握及摸索反射，Foster－Kennedy综合征，其它如木僵，贪食，性功能亢进，高热，多汗等。The clinical characteristics of frontal lobe damage：[psychiatric](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æé\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [symptoms](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æœ‰é), frontal ataxia, Language and writing disturbances, gaze palsy, paralysis, grasp reflex and groping reflex, Foster－Kennedy syndrome, and others symptoms including stupor, lycorexia, sexual hyperfunction, hyperpyrexia, hidrosis and so on. 顶叶损害临床特点：皮质感觉障碍，体象障碍，Gerstmann综合征，失用症，失读症，象限盲。The clinical characteristics of parietal lobe damage: Cortical sensory disorder, body dysmorphic disorder, Gerstmann syndrome, apraxia, alexia, quadrantanopia. 颞叶损害临床特点：感觉性失语，命名性失语，颞叶癫痫，精神及记忆障碍，视野改变。 The clinical characteristics of temporal lobe damage：Receptive aphasia, anomic aphasia, temporal lobe epilepsy, mental and memory disorders and visual field changes. 枕叶损害临床特点：视野改变（偏盲、皮质盲），视幻觉，视觉失认，视觉变形。The clinical characteristic of occipital lobe damage: vision changes ([hemianopsia](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æé\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);), [cortical](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æœ‰é) [blindness](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æœ‰é)), [visual](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æœ‰é) [hallucination](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æœ‰é), visual agnosia and visual distorsion.边缘叶损害临床特点：情绪及记忆障碍,行为异常,幻觉,反应迟钝等精神障碍及内脏活动障碍。 The clinical characteristics of [limbic](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æé\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) lobe damage: [emotional](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æœ‰é) and memory disorders, abnormal behavior, [hallucination](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æœ‰é), slow response and other mental disorders and visceral motor disorder.内囊损害临床特点：“三偏”综合征。The clinical characteristics of [capsula](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æé\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [interna](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æé\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) damage：[hemianopsia](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æé\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);), [hemianesthesia](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æœ‰é) and [hemiplegia](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æœ‰é).基底核损害临床特点：肌张力减低－运动过多综合征，肌张力增多－运动减少综合征。 The clinical characteristics of basal ganglion damage ：decreased muscle tone-hyperkenesia syndrome, increased muscle tone-hypokenesia syndrome.

脑干损害临床特点：延髓背外侧综合征(Wallenberg Syndrome)，延髓内侧综合征（Dejerine Syndrome），脑桥腹下部综合征（Millard－Gubler Syndrome），脑桥中部基底综合征，大脑脚综合征（Weber Syndrome），红核综合征（Benedikt Syndrome）。The clinical characteristics of [brainstem](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æé\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) damage：Wallenberg Syndrome, Dejerine Syndrome, Millard-Gubler Syndrome, Weber Syndrome, Benedikt Syndrome. 掌握 Wallenberg 综合征, Millard-Gubler 综合征和 Weber 综合征.Master these three main syndromes: Wallenberg Syndrome, Millard-Gubler Syndrome and Weber Syndrome.

小脑损害临床特点：共济失调、平衡障碍及构音障碍。 The clinical characteristics of cerebellum damage：[Ataxia](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æé\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);), [disequilibrium](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æœ‰é) and [dysarthria](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æœ‰é).

脊髓损害临床特点（详见第四章）：运动障碍、感觉障碍、括约肌障碍及自主神经功能障碍等。The clinical characteristics of [spinal](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æé\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) [cord](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æé\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) damage（See chapter 4）：[Paralysis](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Users\Administrator\Documents\WeChat%20Files\huangxin983675\FileStorage\KuGou\æé\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);), sensory disturbances, dysfunction of sphincter and autonomic dysfunction. 主要有脊髓横贯性损害及脊髓半切综合征（Brown-Sequard Syndrome）. Major spinal damage includes transverse spinal damage and Brown-Sequard Syndrome.

第六节 神经系统疾病的诊断原则

Section 6: Diagnosis principle of neurologic diseases

定位诊断：即解剖部位诊断，主要根据神经系统症状和体征，运用神经解剖生理知识来确定。 Localization diagnosis:means diagnosis for anatomical site, which is confirmed mainly according to the signs and symptoms of nervous system and using the knowledge of neural anatomical physiology. 首发症状常常启示病变的主要部位，也有助于说明病变的性质。Initial symptoms frequently suggest the dominating sites of pathological changes, and also help to explain the nature of the lesions.判断原则：首先确定是否为神经系统疾病。明确病变损害水平，是中枢性（脑、脊髓）或周围性（脑神经核、前角、神经根、周围神经、神经-肌接头、肌肉），如有脑或脊髓损害的表现，则为中枢性，否则，为周围性。 Principles:Firstly to determine the diseases are neurologic or not. Then to make sure the damaged regions are central(brain and spinal cord) or peripheral(cranial nerve nucleus, ventral horn, nerve root and peripheral nerve, the nerve - muscle, joint, muscle) by distinguishing the existence(central) or absence(peripheral) of the brain or spinal cord impaired performance. 明确病变为局灶性、多灶性或弥漫性、系统性，原则上尽量以一个局灶解释，如不合理，才考虑多灶性或弥漫性。Thirdly to find out lesions are focal, multifocal, diffuse or systemic, and to explain it prefer in focal to multiple and diffuse.

定性诊断：决定病变性质，即病因、病理诊断。 Etiologic diagnosis, means diagnosis for pathogenesis and pathology, which aims to determine the nature of the lesions.判断原则：① 感染性疾病：急性亚急性起病，数日内达高峰，有发热、白细胞升高、血沉增快等感染征象，抗炎治疗有效，如中枢神经系统感染。Principles: ①Infectious diseases: acute or subacute onset, approaching peak in a few days, with signs of infection(fever, elevated white blood cells, accelerated blood sedimentation), effective with anti-inflammatory treatment, such as the central nervous system infection；② 外伤：有明确外伤史，外伤后即达高峰，但有部分经过一定时间后才发病，如慢性硬膜下血肿、癫痫等。 ②Trauma: existence of a clear trauma history, approaching peak immediately after injury while some seizure after a certain time, such as chronic subdural hematoma, epilepsy, etc; ③ 血管性疾病：发病多及骤，症状符合受累血管供血区神经功能障碍表现，如脑血管意外，注意有无高血压、心脏病、糖尿病、动脉炎等。③Vascular diseases: urgent suddenly onset, with symptoms relating to nerve dysfunction in responsible blood vessels supplying area, such as cerebrovascular accident, attentions need to be paid for high blood pressure, heart disease, diabetes, arteritis, and so on; ④ 占位性：起病多缓慢，进行性加重，颅高压及局灶体征，以肿瘤多见。 ④Space-occupying diseases: slow progression, increased cranial pressure and focal signs, frequently to cancer; ⑤ 脱髓鞘性疾病：起病急，典型经过为复发-缓解交替，多灶性白质损害为主，如多发性硬化。⑤Demyelinating diseases: acute onset, typically undergo process of relapse-remission alternately, multiple focal white matter damage is given priority to, such as multiple sclerosis;⑥变性疾病：起病缓慢进展，有好发年龄，选择性侵犯某一神经系统，如ALS、AD。 ⑥Degenerative diseases: slow progression, with specific age of onset and selective infringement of a nervous system, such as ALS, AD; ⑦ 遗传性疾病：多侵犯神经组织某一系统，儿童或青少年起病多见，可有阳性家族史（两代以上或同胞中有两个以上在相似年龄出现类似症状者高度提示遗传病）。如DMD，结节性硬化等。⑦Genetic disease: frequently infringe to some system nerve tissue, child or adolescent onset, could have a positive family history(two or more generation of compatriots with the similar age symptoms highly suggest of genetic disorders) such as DMD, tuberous sclerosis, etc; ⑧中毒性疾病：急性或慢性发病，其原因有化学品。毒气、生物毒素、食物、药物中毒等。⑧Toxic diseases: acute or chronic onset, causes include chemicals, gas, food, medicine, biological toxin poisoning, etc; ⑨代谢和营养障碍性疾病：发病缓慢，病程较长，全身症状基础上出现比较固定的神经症状，原发病得到控制后神经系统症状有所好转，如糖尿病并发多发性神经病。⑨Metabolism and nutrient disorder: slowly onset, long process of diseases, relatively fixed neurological symptoms appear on the basis of systemic symptom, symptoms of nervous system remit after the primary disease under control, such as diabetes mellitus with polyneuropathy.

**教学基本要求****:****Basic teaching requirement**

一般了解：反射弧的组成，深反射、浅反射、病理反射(上、下肢)的内容及临床意义。[General](file:///D:\黄玲娟工作（2023年）\10%20医学教育处\10%20课程建设\05%202024年第2学期教学大纲修订\Program%20Files\Youdao\Dict\6.3.69.5012\resultui\frame\javascript:void(0);) comprehesion: reflex arc, deep reflex, [superficial](javascript:void(0);) [reflex](javascript:void(0);), pathological reflex (upper and lower limbs), the content and clinical significance.

一般掌握：神经系统的应用解剖。General grasp: applied anatomy of the nervous system.

牢固掌握：神经系统各部位病变的临床表现作为定位诊断的主要依据；Solid grasp: Using the clinical performances rooted in each impaired region of the nervous system of clinical as the main basis for localization diagnosis; 12对脑神经的应用解剖和相应的症状和体征；Applied anatomy and corresponding signs and symptoms of 12 pairs of cranial nerves;各种感觉的传导径路，感觉节段性的体表分布，感觉障碍的临床表现及定位诊断；Conduction path of various sensory, segmental sensory distribution on body surface, the clinical manifestations of the sensory disturbance and locating diagnosis; 下、上运动神经元、锥体外系损害时的临床表现；Clinical manifestations for [lower](javascript:void(0);) [motor](javascript:void(0);) [neuron](javascript:void(0);)、upper motor neuron、 extrapyramidal system damage; 大脑半球(额、顶、颞、枕叶和边缘系统)、内囊、基底节、脑干、小脑、脊髓损害的表现。Performances for cerebral hemisphere (frontal, parietal, temporal and occipital lobe and the limbic system), internal capsule, basal ganglia and brain stem, cerebellum, spinal cord damage.

**重点与难点****Emphases and Difficulties**

本章重点与难点是神经系统各部位损害的表现。Emphases and Difficulties of this chapter are the performances rooted in each impaired part of the nervous system.

第三章 周围神经疾病

Chapter 3 Peripheral neuropathies

第一节 概 述

Section 1 Introduction

周围神经包括12对脑神经及3l对脊神经。The peripheral nerves consist of twelve pairs of cranial nerves and thirty-one pairs of spinal nerves.12对脑神经与脑的联系及进出入颅的孔道。 The connection between the twelve pairs of cranial nerves and the brain, as well as the canals through which nerves communicate with brain, should be mastered. 脊神经的组成。 The composition of spinal nerves should be comprehended.周围神经疾病分神经痛和神经炎两大类。 Two principle parts of peripheral neuropathy are neuralgia and neuropathy, whose concepts should be comprehended. 病理改变主要有两种：轴索变性(即华勒氏变性)及节段性脱髓鞘。Two principle pathologic changes affecting peripheral nerve axon are: Wallerian degeneration （disintegration of axons and myelin distal to the site of injury）and segmental demyelination.

临床表现: 感觉障碍：消失、减退、过敏、疼痛、异常感。 Clinical manifestation: sensory disturbances: neuropathic pain, anesthesia, hypesthesia, hyperesthesia, and paresthesia; 运动障碍：下运动神经元瘫痪。Motor disturbance: lower motor neuron paralysis; 植物神经功能障碍：皮肤的温度、颜色、出汗的改变。Autonomic nerve dysfunction: change of temperature, color and perspiration of skin. 损害的部位不同有不同的表现，包括神经根损害、神经丛损害、神经干损害、神经末梢的损害。Damages of different parts present with different clinical manifestations: Nerve root damage, nerve plexus damage, nerve trunk damage, and nerve ending damages.

## 三叉神经痛

## Section 2 Trigeminal neuralgia

三叉神经是混合神经。Trigeminal nerve is mixed nerve.半月节，眼支，上颌支，下颌支支配区。 Semilunar ganglion, and its innervating areas : ophthalmic branche, maxillary branche, mandibular branche, should be comprehended.临床表现：反复发作，间歇期正常。Clinical manifestation: repeat episodes but normal presentations during intermission stage.疼痛：部位、特征、性质、扳机点、时间。Pain: site, characteristics, quality, trigger points and duration .无阳性体征。No positive signs during neurological examination.要与继发性三叉神经痛、颞颌关节综合症、牙痛相鉴别。 Differential diagnosis: Secondary trigeminal neuralgia, toothache and temporal mandibular joint syndrome.治疗可用抗癫痫药、各种止痛药、针炙、封闭疗法、手术治疗。 Treatment: Antiepileptic drugs, pain relievers, acupuncture, blockage treatment and surgical treatment.

# 第三节 坐骨神经痛

# Section 3 Sciatica

坐骨神经痛分原发性和继发性两大类。Sciatica can be divided into primary sciatica and secondary sciatica.原发性多由感染、风湿等因素引起。Primary sciatica is often caused by factors such as infection or rheumatism.继发性是由坐骨神经通路中受其邻近组织病变压迫、刺激等引起。Secondary sciatica is caused by compression and irritation of the adjacent lesions in sciatic nerve pathways, etc.临床表现：疼痛：部位、投射性痛、减痛姿势、压痛点。 Clinical manifestation: Pain: positions and projective pain, anti-algic posture, tender point.体征：臀部和小腿肌肉松驰，肌肉轻度萎缩；足背外侧及小腿外侧轻度感觉障碍；跟腱反射减弱或消失；直腿抬高试验阳性。根据疼痛的部位、性质，投射的方向，压痛点，运动和感觉障碍的特点，直腿抬高试验阳性可作出诊断。Sign : Hip and leg muscle relaxation, muscle atrophy, sensory disturbances of lateral dorsum of foot and lateral crural region, weaken or disappeared Achilles tendon reflex, positive Lasegue sign. Physical Diagnosis is made by clinical features such as the location and nature of the pain, the direction of the projection, pressure point, the characteristics of the motor and sensory disorder and positive Lasegue sign.但要分清是原发性或继发性，强调继发性多见并尽可能找出其病因(以椎间盘病变引起者多见)。 Furthermore, to distinguish primary or secondary, it is highlightened that secondary causes appear to be more common and once suspected, these causes had better been found (intervertebral disc disease cause is common.)坐骨神经痛要与骶髂关节病变、腰肌劳损、髋关节病变鉴别。病因不同而治疗方法亦有差别。Differential diagnosis include：sacroiliac joint lesions, lumbar muscle strain and hip joint lesion. 急性期要卧硬板床休息，使用镇痛药，椎间盘病变引起者可作牵引或硬膜外注射、推拿、按摩。Different etiology leads to different treatment. in acute phase，hard bed rest, use of analgesics, traction, epidural injections and massage could be used for intervertebral disc disease.内科治疗无效可考虑手术。 Surgery is considered when conservative treatment is invalid.

## 第四节 特发性面神经麻痹

## Section 4 Idiopathic facial paralysis

特发性面神经麻痹是指病因不明、急性发病的周围性面神经麻痹。Idiopathic facial paralysis present as a rapidly evolving peripheral facial paralysis, with undetermined etiology.起病突然，一侧面部表情肌瘫痪，乳突前方可有压痛。 Onset is sudden, with unilateral facial paralysis and pressure pain in front of mastoid process.起病急，一侧面部表情肌全部瘫痪即可诊断。Diagnosis is made by sudden onset of facial expression muscle paralysis. 要与面部神经管内炎症、急性多发性神经根神经炎、桥脑及桥脑小脑角病变、中枢性面神经瘫痪鉴别。 Differential diagnosis: Inflammation of facial nerve canal, acute polyneuritis, pontine and pontine-cerebellum angle lesions, central facial nerve paralysis. 急性期治疗以改善局部血液循环、减轻面神经水肿为目的，可用皮质激素、神经营养药、茎乳突孔附近理疗，保护角膜。Treatment for acute stage: to improve local blood circulation and relieve facial nerve edema. Corticosteroids, neurotrophic drugs, physical therapy around mastoid stem hole, and cornea protection could be tried. 恢复期可用针灸、按摩、理疗，长期不恢复者可考虑手术治疗。 In its recovery stage: acupuncture, massage, and physiotherapy could be tried. Surgery could be considered when long term recovery is not reached.

第五节 急性炎症性脱髓鞘性多发性神经根神经病

Section 5 Acute Inflammatory Demyelinating polyneuropathy,AIDP

本病又称吉兰一巴雷综合征(Guillain-Barre综合征).AIDP is also called Guillain-Barre syndrome, GBS. 吉兰一巴雷综合征的病因尚未阐明，可能与自身免疫反应有关。The causes of GBS have not been clarified. It may be relative to autoimmunity. 病理改变主要为周围神经的炎症性脱髓鞘。Pathological changes of GBS is inflammatory demyelinating of peripheral nerves. 临床表现包括病前1～4周有感染史或预防接种史，急性或亚急性起病，四肢对称性无力及四肢远端感觉异常，脑神经损害，严重者可出现呼吸麻痹而导致呼吸困难，大小便功能一般无障碍。Its clinical changes include infection or vaccination in 1 to 4 weeks before seizure,acute or subacute onset, bilateral asthenia in arms and legs, cenegthesia in distal limbs, the ctanial never injury, some severe patients may have dyspnoea because of breath paralysis, but without defecation disorder generally. 体征为四肢对称性弛缓性瘫痪，可有手套、袜套样感觉障碍及颅神经损害，常见为面、舌咽、迷走神经，严重者出现呼吸困难。 Physical signs: bilateral flaccid paralysis in arms and legs, disturbance of sensation just like wearing gloves and socks, cranial nerve injury particularly in facial never, glossopharyngeal nerve and vagus never, difficulty in breathing in some serious cases. 辅助检查主要是脑脊液的特征性改变，蛋白含量增高，细胞数正常，称为蛋白一细胞分离现象，以病后三周最明显。Assistant examination: change in cerebrospinal fluid(CSF) which is called protein-cell separation showing the content of protein increaseing while the content of cells unchanging.This phenomenon is the most obvious in 3 weeks after seizure. 强调吉兰一巴雷综合征可致呼吸困难而需密切观察及紧急抢救。We must realize that because GBS may lead to breath paralysis, so patients need respiratory monitoring and emergency treatment. 诊断根据急性或急性起病，四肢对称性弛缓性瘫痪，可有感觉障碍及颅神经损害，脑脊液蛋白一细胞分离现象，病前有感染史或接种史等作出诊断。 We can diagnose GBS by acute or subacute onset,bilateral flaccid paralysis in arms and legs, protein-cell separation in CSF, infection or vaccination before seizure and so on.须与急性脊髓灰质炎、全身型重症肌无力、周期性麻痹(低钾型)、急性脊髓炎相鉴别。Differential diagnosis： acute poliomyelitis，myasthenia gravis（MG），kypokalemic periodic paralysis,acute myelitis.治疗在急性期应用免疫球蛋白静脉滴注和血浆置换。Plasma exchange(PE) and intravenous immunoglobulin(IVIG) should be given in acute phase. 密切观察病情发展，尤其在起病2周内，加强护理，保持呼吸通畅，预防肺不张及呼吸道感染，做好呼吸麻痹的抢救准备。Monitoring of illness is very necessary especially in the first two weeks of clinical course, and strengthening nurses, keeping ease breathing, preventing atelectasis and infection and prepare for emergency treatment are essential,too. 同时给予神经营养药及对症治疗。康复治疗宜及早开始，包括针灸，按摩及理疗。Neurotrophic drugs and symptomatic treatment are given at the same time.Rehabilitation such as acupuncture, massage and physiotherapy should be started as early as possible.

**教学基本要求：Basic teaching requirement**

一般了解：周围神经疾病的分类及病理改变；吉兰一巴雷综合征的病因、病理。General grasp: the classification and pathological changes of peripheral neuropathy; the cause and pathological changes of GBS.

一般掌握：周围神经的应用解剖；继发性坐骨神经痛的病因。 General grasp: anatomy of peripheral nerves, the cause of secondary sciatica.

牢固掌握：三叉神经痛、坐骨神经痛、面神经炎、吉兰一巴雷综合征的临床表现、诊断、鉴别诊断及治疗；Solid grasp: the clinical manifestation, diagnosis,differential diagnosis and treatmet of trigeminal neuralgia,sciatica, facial neuritis and GBS.吉兰一巴雷综合征的病变部位，诊断和鉴别诊断，治疗及护理原则，特别强调掌握吉兰一巴雷综合征的严重并发症——呼吸麻痹的临床表现、治疗及抢救措施。The lesion,diagnosis,differential diagnosis and treatmet of GBS, especially the clinical manifestation,treatment and emergency of serious complication of GBS,breath paralysis.

**重点与难点:****Emphases and Difficulties**

本章重点与难点是吉兰一巴雷综合征的诊断原则和鉴别诊断。Emphases and Difficulties of this chapter are the diagnosis and differential diagnosis of GBS.

**第四章 脊髓疾病**

Chapter 4 Spinal Cord Diseases

第一节 概 述

Section 1 Introduction

脊髓由含神经细胞的灰质和上下行传导束的白质组成。Spinal cord is composed of gray matter full of never cells and white matter which is a tract. 脊髓损害的临床类型有：(1)局灶性损害；(2)半侧损害；(3)完全横贯性。Types of spinal cord lesions: focal lesions,hemi-transverse impairments,transverse impairments. 脊髓损害定位主要根据感觉、运动、反射、植物神经症状。We localize the spinal cord lesions according to sensation,motor function, reflection and autonomic nervous system symptom.重点掌握脊髓与脊椎的关系。脊髓病变分为压迫性与非压迫性两大类。Students should master the relationship between spinal cord and vertebration.Spinal cord abnormality includes compressive and non-compressive abnormality.

第二节 急性脊髓炎

Section 2 Acute Myelitis

急性脊髓炎的原因与病毒感染及变态反应有关。 Acute myelitis is associated with virus infection and allergic reaction.临床表现的症状包括好发年龄、病前有感染史、急骤起病，出现肢体瘫痪（主要损害胸段，故以截瘫多见）、感觉障碍、大小便障碍。 Its clinical changes include susceptible age, infection before seizure,acute onset, acroparalysis(the common type is paraplegia because it usually damages thoracic vertebra )，disturbance of sensation， defecation disorder.体征为出现急性脊髓横贯性损害，包括传导束性感觉障碍、中枢性瘫痪、植物神经系统改变，要突出急性期脊髓休克的特点。Physical signs:acute transverse impairments including conductive fasciculus type sensory disturbance,central paralysis, the change of autonomic nervous system, spinal shock in acute stage.辅助检查可有脑脊液和周围血象的改变，腰穿检查一般无阻塞。Assistant examination:change in cerebrospinal fluid(CSF) and peripheral hemogram.Lumbar puncture can usually be operated without mention of obstruction. 诊断时根据急性起病、有感染症状、急性横贯性脊髓损害、结合部分病例脑脊液改变可作诊断。We can diagnose acute myelitis by acute onset,symptoms of infection, acute transverse impairments and change of CSF in some cases. 要与GBS、小儿麻痹症、急性硬膜外脓肿相鉴别。Differential diagnosis： GBS,infantile paralysis, acute epidural abscess.Glucocorticoid and anti-viral and bacterail infection treatment should be given in acute phase.治疗在急性期应用糖皮质激素、抗病毒及细菌感染，强调防治各种并发症（褥疮、泌尿道感染、肺炎）的重要性。It is very important to prevent complications such as bedsore, urethral infection and pneumonia.恢复期为功能锻炼及痉挛肢体的处理,尽可能帮助恢复功能。Functional exercise and treatment of limb spasm should be conducted in recovery phase to improve functional recovery as well as possible .

第三节 脊髓压迫症

Section 3 Compressive Myelopathy

脊髓压迫症的概念包括其意义、病因、发病原理和病理。The definition of compressive myelopathy should be comprehended, including its meaning, etiology, pathogenesis and pathology. 脊髓压迫症是脊髓或椎管内发生占位或压迫性病变。Compressive myelopathy is caused by occupying lesions or compressive lesions in the spinal cord or epidural space. 病因包括：(I) 脊椎疾病；(2) 椎管内脊髓外疾病 (硬膜外病变和硬膜内病变)；(3 ) 髓内疾病。Its etiology includes (1) spine disorders; (2)intraspinal-extramedullary disorders (epidural lesions and intradural lesions); (3) intramedullary disorders. 临床表现因疾病的性质和部位不同而异，急性期多表现横贯性损害。 The clinical manifestations will depend on different kinds of disorders and the location of lesions. Transverse spinal cord lesion is the predominant presentation at acute stage. 以慢性进展的硬膜内髓外病变为例，包括神经根痛、运动、反射、感觉及植物神经功能障碍等表现。 For example, in chronic progressive intradural-extramedullary lesion, the manifestations include radicular pain, motor, reflex, sensory and autonomic dysfunction. 辅助检查包括腰穿、x线检查、脊髓造影、CT或MRI。诊断首先要明确脊髓损害是压迫性或非压迫性；其次从纵的方面确定脊髓压迫节段；再从横的方面判定压迫在髓内或髓外，并确定压迫病变的性质。The assistant examinations include lumbar puncture, X-ray examination, myelography, CT or MRI. To diagnose, firstly, it should be confirmed whether the spinal cord lesion is compressive or not. Secondly, the level of compressive lesion of spinal cord should be confirmed. Moreover, it should be confirmed that whether the compressive lesion is intramedullary or extramedullary, and the nature of compressive lesion should be figured out. 总结慢性脊髓压迫的特点。Summarize the features of chronic compressive myelopathy.原发性椎管内肿瘤要与脊髓蛛网膜炎鉴别，硬膜外脓肿要与急性脊髓炎鉴别，髓内肿瘤与脊髓空洞症鉴别。Primary intraspinal tumors should be considered in the differential diagnosis of spinal arachnoiditis, epidural abscess should be considered in the differential diagnosis of acute myelitis, while intramedullary tumors should be considered in the differential diagnosis of syringomyelia. 治疗包括病因治疗(手术)、术后康复治疗与对症治疗(镇痛及神经营养药物)。 The treatment includes etiological treatment (surgery), rehabilitation treatment after surgery and symptomatic treatment (analgesics and neurotrophic drugs).

第四节 运动神经元疾病

Section 4 Motor Neuron Diseases

运动神经元疾病的分类包括进行性脊髓性肌萎缩、原发性侧索硬化、肌萎缩性侧索硬化和进行性延髓麻痹，以肌萎缩性侧索硬化为代表。The classifications of motor neuron diseases include Progressive Muscular Atrophy, Primary Lateral Sclerosis, Amyotrophic Lateral Sclerosis and Progressive Bulbar Palsy, among which Amyotrophic Lateral Sclerosis is the most representative motor neuron disease. 诊断：多于中年后发病，进行加重，病变限于上、下运动神经元，感觉障碍不明显，潜隐发生而慢性发展。Diagnosis: The disease affects predominantly middle-aged and elderly individuals with progressive development. The impairment confines to the upper and lower motor neurons, with little sensory dysfunction. 要与颈髓肿瘤、颈椎病、脊髓空洞症相鉴别。The motor neuron diseases are concealing onset and chronically progressive, which should be considered in the differential of cervical spinal cord tumors, cervical spondylosis and syringomyelia.

**教学基本要求：Basic teaching requirements**

一般了解：脊髓病变的分类；运动神经元疾病的临床表现及分类，运动神经元疾病的诊断和鉴别诊断。General comprehension: the classifications of myelopathy; the clinical manifestations and classifications of motor neuron diseases; the diagnosis and differential diagnosis of motor neuron diseases.

一般掌握：脊髓的应用解剖及生理；急性脊髓炎的临床表现；脊髓压迫症的临床表现。General grasp: the applied anatomy of spinal cord and physiology; the clinical manifestations of acute myelitis; the clinical manifestations of compressive myelopathy.

牢固掌握：脊髓损害的临床类型，定位；急性脊髓炎的病因、病理，诊断和鉴别诊断，治疗及护理原则；脊髓压迫症的概念，诊断和鉴别诊断及治疗原则。Solid grasp: the clinical types of spinal cord injury and its localization; the etiology, pathology, diagnosis, differential diagnosis, treatment and nursing principles of acute myelitis; the definition, diagnosis, differential diagnosis and treatment principles of compressive myelopathy.

**重点与难点:** **Emphases and Difficulties**

本章重点与难点是脊髓各平面损害的表现，脊髓压迫症的鉴别诊断。 Emphases and Difficulties of this chapter are the manifestations of spinal cord injury with each segment and the differential diagnosis of compressive myelopathy.

1. **脑血管疾病**

Chapter 5. Cerebrovascular Diseases

第一节 概 述

Section 1. Introduction

脑血管病是常见病、多发病。Cerebrovascular diseases is a kind of common and frequent disease. 脑血管的解剖：两个供血系统及各级侧支循环。Anatomy of cerebral vessels: the anterior and posterior blood supply systems, and their collateral circulations.正常脑血流供应，影响脑血流量的主要因素，脑血流量的调节。Physiology of cerebral blood supply, major factors that affect cerebral blood flow, regulation of cerebral blood flow.脑血管病的常见病因：血管壁病变、血液成分改变、血流动力学改变。The underlying pathophysiology mechanism of cerebrovascular diseases: pathological changes of cerebral vessel walls, blood components anomalies and hemodynamic changes.

第二节 脑出血

Section 2. Intracerebral Hemorrhage

**病因：Etiology:** 高血压小动脉硬化；先天脑动脉畸形、动脉瘤；继发于其他系统疾病。 Hypertensive arteriolosclerosis; Congenital arterial malformation of cerebral artery, aneurysm; Secondary to other systemic diseases.

**病理：Pathology:**部位：壳核、丘脑出血，脑叶出血；桥脑、小脑出血，脑室出血。Location: Putamen, thalamus hemorrhage; lobal hemorrhage; Pontine or cerebellar hemorrhage; intraventricular hemorrhage.血肿压迫，脑缺血，脑水肿，颅内高压，脑疝，继发脑干受压引起死亡。Compression of hematoma, cerebral ischemia, brain edema, intracranial hypertension, death resulted from secondary brain stem compression..

**临床表现：Clinical Manifestations:**一般症状：好发年龄，多数有高血压史，多在活动或激动时发病。General manifestations: predisposed age, history of hypertension in most cases, onset during activities or excitement.急性症状：Acute symptoms:全脑症状：意识障碍和颅内高压症状。Diffuse cerebral symptoms: Consciousness disturbance, intracranial hypertension. 局灶症状：壳核、丘脑出血；脑叶出血；桥脑出血；小脑出血。Focal symptoms: Putamen and thalamus hemorrhage 、Lobe hemorrhage 、Pontine hemorrhage 、 Cerebellar hemorrhage.恢复期：多有后遗症。 Recovery stage: sequel in most cases.

**辅助检查：Laboratory Findings and Imaging：**常规、血糖、血尿素氮、尿常规、心电图检查。Complete blood cell count, Blood glucose, Urinary screening, electrocardiography.脑脊液检查：适应征、禁忌征。Cerebrospinal fluid screening: indication and contraindication.CT及MRI检查。Computed tomography and magnetic resonance imaging.

**诊断与鉴别诊断：Diagnosis and Differential Diagnosis:** 与引起昏迷的其他疾病鉴别，根据头外伤史与脑外伤鉴别以及内科疾病、中毒等。Diseases that could result coma: trauma (based on the history of head injury), other internal medical diseases or poison.根据发病急缓与脑瘤、脑炎等鉴别。Cerebral neoplasms and encephalitis, based on the disease onset.与蛛网膜下腔出血及脑梗塞鉴别。Subarachnoid hemorrhage and cerebral infarction.

**治疗：Treatment:** 首先是挽救生命，其次是降低残废率。Lifesaving support at first, then disability reduction.:急性期：Acute stage:保持呼吸道通畅，吸氧，密切观察病情。Airway management, oxygen inhalation and careful observation.控制脑水肿，降低颅内压，防止脑疝。Manage brain edema, lower intracranial pressure and prevent cerebral herniation.根据病情及平时血压水平，慎重处理血压。Control blood pressure with caution, according to clinical situation and blood pressure level before onset.预防及治疗合并症。Prevent and treat comorbidities. 手术治疗的适应征。Indications for surgical intervention.恢复期：康复治疗，继续控制血压，预防复发。Recovery stage Rehabilitation, continuous control of blood pressure and prevention of recurrence.

1. 蛛网膜下腔出血

Section 3. Subarachnoid hemorrhage

**病因：Etiology:**常见为颅内动脉瘤，其次为脑血管畸形、脑动脉硬化。Aneurysm is the major cause. Cerebrovascular malformation and cerebral atherosclerosis are less frequent.

**病理：Pathology:**好发于脑底动脉各分叉部，出血破入蛛网膜下腔可致脑水肿、颅内高压、脑疝；合并脑血管痉挛可致脑缺血、脑梗塞。Aneurysms tend to occur in the bifurcation area of arteries on the skull base. Hemorrhage into subarachnoid space could cause cerebral edema, increased intracerebral pressure and herniation. Complcating with cerebral artery spasm could cause cerebral ischemia and infarction.

**临床表现：Clinical Manifestations:**突然剧烈头痛，常伴恶心、呕吐。Severe headache of abrupt onset, usually accompanied by nausea and vomit.可有短暂意识障碍或精神症状。Transit consciousness disturbance or psychiatric disorders.脑膜刺激征。Meningeal irritation sign. 发病时除少数有一侧动眼神经麻痹外无其他定位体征。At the onset, most cases are absent of focal neurological deficit except unilateral oculomotor nerve palsy in rare cases.发病后逐渐出现单瘫、偏瘫或意识状态改变要警惕继发脑血管痉挛及脑梗死。After onset, presentation of monoplegia, hemiplegia or consciousness alternation are the warning signs of cerebrovascular spasm and cerebral infarction.

**辅助检查：Laboratory Findings and Imaging:**一般CT可证实。Identified by computed tomography in most cases.腰穿为血性脑脊液。Bloody cerebrospinal fluid identified by lumber puncture.脑血管造影。Cerebral angiography.

**诊断与鉴别诊断：Diagnosis and Differential Diagnosis:**突然发生剧烈头痛或伴恶心、呕吐，与各类脑膜炎鉴别。Severe headache of abrupt onset, accompanied by nausea and vomit. Differential diagnosis should be made to rule out meningitis.有脑膜刺激征，与代谢或中毒性脑病相鉴别。Meningeal irritation signs. Differential diagnosis should be made to rule out metabolic or toxic encephalopathy.无其他神经系统定位体征，与脑出血、脑梗塞鉴别。Absence of focal neurologic deficits. Differential diagnosis should be made to rule out intracerebral hemorrhage and cerebral infarction.

**治疗：Treatment:**绝对卧床4～6周。保持大便通畅，镇静止痛，避免用力。Absolute bed rest for 4 ~ 6 weeks. Prevention of constipation, sedation-analgesia, avoidance of exertion.止血剂的应用及注意点。Application of hemostatic agents and the items for caution.外科治疗的时机。目前多主张早期手术治疗。Timing for surgical intervention. Early surgical treatment is recommended.可适当脱水及降低血压，但应避免过度脱水及低血压。Appropriate dehydration and blood pressure lowering. Avoid excessive dehydration and hypotension.

**预后Prognosis**

第四节 脑梗死

Section 4. Cerebral infarction

1. 脑血栓形成：**Cerebral Arterial Thrombosis**

**病因：Etiology:** 最常见为动脉粥样硬化，常伴有高血压；其他原因有各种脑动脉炎，先天性血管畸形等。Atherosclerosis is the most common etiology, usually accompanied with hypertension,. Other pathogenesis includes cerebral vasculitis, congenital vascular malformation and so on.

**病理：Pathology:** 一类为动脉粥样硬化致管腔狭窄，附加血栓形成，导致血管阻塞Arterial stenosis or occlusion caused by atherosclerosis and coexisting thrombosis. ；另一类为血栓形成斑块碎片脱落导致动脉——动脉栓塞。Artery-to-arterial embolism caused by the emboli originating from more proximal arteries。

**临床表现：Clinical manifestations:**一般症状：好发年龄，多有高血压动脉硬化史，或伴冠心病、糖尿病，多在睡眠或安静情况下起病。General manifestation: Predisposed age, with coexisting hypertensive atherosclerosis in most cases, coronary heart disease and diabetes as comorbidities. Insidious onset in rest or sleep.全脑症状决定于梗塞部位及大小。Diffuse symptoms: Determined by the size and location of infarction.局灶症状: Focal neurological deficits: ：(1)颈内动脉系统Symptoms of internal carotid arteries and the branches occlusion; (2)椎－基动脉系统。 Symptoms of vertebrobasilar arteries occlusion.

**辅助检查：Laboratory Findings and imaging:** CT、MRI、MRA、DWI、DSA检查等。Computed tomography, magnetic resonance imaging, magnetic resonance angiography, diffusive weighted imaging, digital subtraction angiography and so on.

**诊断与鉴别诊断：Diagnosis and Differential Diagnosis:** 与脑出血、心源性脑栓塞、脑瘤鉴别。Intracerebral hemorrhage, cardiac embolism, cerebral neoplasms

**治疗Treatment：**急性期治疗Acute stage:治疗原则：急性期调整血压，防治并发症，防止血栓进展及减少脑梗塞范围（减小缺血半暗带）。Manage blood pressure, prevent complications, prevent progression of thrombosis and reduce the size of infarction (penumbra).基础性支持治疗, Basic support:一般性处理 卧床休息，加强皮肤、口腔呼吸道及排便的护理。General management: bed rest, skin nursing, oral nursing, airway care and defecation management调控血压 ； Management of blood pressure.控制血糖 ； Blood glucose controlling.抗脑水肿，降低颅内压 Treatment of brain edema and intracranial hypertension.积极防治合并症 ；Prevention of complications.改善脑血循环，减轻脑损害的治疗 。Strategy for improving cerebral circulation and alleviation of brain damage:溶栓治疗 Thrombolysis。抗凝治疗 Anticoagulation。降纤治疗 Defibrination 。 抗血小板聚集治疗 Antiplatelet Therapy 其他：促使血管新生、改善微循环(如国家一类新药丁苯酞、尤瑞克林等)，Others: improve angiogenesis and microcirculation (Butylphthalide and Urinary Kallikrein)。脑保护治疗 Neuroprotection 恢复期治疗：Recovery stage:尽早进行康复治疗配合各种物理治疗。Early rehabilitation with physical therapies。

**预防和预后Prognosis and Preventive Strategy.**

1. 心源性脑栓塞**Cardiac Embolism**

**病因：Etiology:**风湿性心瓣膜病心内血栓脱落是最常见原因，其次为细菌性心内膜炎、心肌梗塞、心肌病、心脏手术后等所致附壁血栓脱落引起。Thrombus induced by rheumatic valve disease accounts for the origination of most emboli. Bacterial endocarditis, myocardial infarction, cardiomyopathy and heart surgery are less frequent causes of embolism.

**病理Pathology：**颈内动脉尤为大脑中动脉供血区多见。常继发出血引致出血性脑梗塞。Infarction of internal carotid artery (esp. middle cerebral artery) territory. Secondary hemorrhagic infarction.

**临床表现Clinical Manifestation：**突然发病，常见在数秒或数分钟内达最高峰为主要特征。Abrupt onset, symptoms reach their peak in seconds or minutes in most cases.全脑症状一般较轻且短暂。Transit and mild diffuss symptoms.局灶症状：决定于梗塞部位及范围，表现与动脉血栓形成性脑梗塞相同。Focal neurological deficits: The characteristics of symptoms are related to the location as well as the size of infarction and are similar with cerebral arterial thrombosis.可查到原心脏病症状和体征。Symptoms and signs of heart disease.

**辅助检查Laboratory Findings and Imaging：**心电图，胸部X线照片，CT，脑脊液检查。Electrocardiography, chest X ray, Computed Tomography, Cerebrospinal fluid screening.

**诊断与鉴别诊断：Diagnosis and Differential Diagnosis:**主要根据发病更突然及有心脏病体征，与脑出血、其他脑梗死鉴别。Abrupt onset and signs of heart diseases, differential diagnosis from hemorrhage and other types of infarction.

**治疗原则Treatment：**治疗原发病。Treatment of the primary diseases.治疗梗塞引起的脑病变。Treatment of brain lesion.

三、腔隙性脑梗死**Lacunar Infarction**：

**病因病理：Etiology and Pathology:**多为高血压小动脉硬化引起。Hypertensive arteriolosclerosis accounts for the most cases.梗塞灶多在1.5cm以下，常为多发，称为腔隙状态。The size of infarction is less than 1.5 cm. Most cases present multiple lesions, which is termed as lacunar state. 主要见于深穿支供血区：壳核、内囊、丘脑、桥脑及放射冠等。 Predisposed location is the territory of perforating arteries, which includes putamen, internal capsule, thalamus, pontine, corona radiate and so on.

**临床表现：Clinical Manifestation:**有多年高血压史。History of hypertension.常表现为纯运动性单瘫或偏瘫及其他腔隙综合征表现。Pure motor monoplegia or hemiplegia as well as other lacunar syndrome可反复多次发作。Frequent recurrence.CT可发现相应的腔隙梗死或无异常。Lacunar infarction detected by Computed Tomography or absence of abnormalities.

**治疗：Treatment:**防治高血压。Manage blood pressure.抗血小板聚集抑制剂。Antiplatelet .

第五节 短暂性脑缺血发作(TIA)

Section 5. Transient Ischemic Attack

属临床综合征。Transient ischemic attack (TIA) comprises series of clinical syndromes. 表现为突然发作的脑局灶症状和体征，大多持续数分钟，最多24小时内完全恢复。可反复发作。It presents with abrupt onset of focal neurological symptoms and signs followed by complete alleviation in minutes to 24 hours for most cases. 影像学没有发现梗死病灶。Frequent recurrence and negative neuroimaging findings highlight this aliment.

**病因及发病机理：Etiology and Pathophysiologic Mechanism:** 基本病因为高血压小动脉硬化及动脉粥样硬化，可为微梗塞、腔隙性梗塞、微小出血引起，其他如颈动脉受压、盗血、血管痉挛也可能引起。The pathological changes of the micro infarction, lacunar infarction and microbleed are related to hypertensive arteriolosclerosis and atherosclerosis. TIA can be induced by compression, steal syndrome or vessel spams of carotid artery.

**临床表现：Clinical Manifestation:**发病快，恢复快，几秒～几小时，不超过24小时。Abrupt onset, complete remission in seconds to hours, usually within 24 hours.反复发作局灶神经症状、体征Focal neurological deficits with frequent recurrence.(颈内动脉系统TIA、TIA of internal carotid system、基动脉系统TIA、TIA of vertebrobasilar system）发作后不遗留神经系统体征。Absence of sequelae

**诊断与鉴别诊断:Diagnosis and Differential Diagnosis:**

**防治原则：Treatment and Prevention Principle:**短时内反复发作的TIA是心、脑血管梗塞的危险信号，应积极处理。 Frequently recurrent TIA with a short period is the warning sign of cerebral infarction and myocardial infarction, which needs immediate intervention. 病因治疗：Treatment of pathogens:稳定血压、治疗心脏病变、纠正血液成分异常、防治颈椎病、降血脂等。Stabilize blood pressure, control heart diseases, deal with abnormalities of blood components and cervical spondylosis, and manage hyperlipidemia.预防性药物防治：Prophylactic medical treatment: ①抗血小板聚集药（Aspirin, 氯吡格雷， 奥扎格雷 ）Antiplatelet (Aspirin, clopidogrel, ozagrel);②抗凝药物治疗。 Anticoagulation;③可选降纤治疗，活血化瘀中药等治疗。Defibrination and traditional Chinese medicine.TIA外科治疗Surgical intervention.

**教学基本要求:****Basic teaching requirement**

一般了解：脑血管疾病的病因、危险因素和发病机理。General comprehension: etiology and mechanism

一般掌握：常见脑血管疾病的防治原则。General grasp: Principles of treatment and prevention.

牢固掌握：脑血管疾病的三级预防原则；常见脑血管疾病的临床表现、诊断和鉴别诊断。Solid grasp: Clinical manifestation, diagnosis and differential diagnosis.

**重点与难点****Emphases and Difficulties**

本章的重点与难点是各种脑血管病的鉴别。Emphases and Difficulties of this chapter are differential diagnosis of various cerebral vascular diseases

**第六章 头痛**

Chapter 6 Headache

头痛是一个常见的临床征象，并不限于神经系统疾病。Headache which is not specified for neurological diseases is a clinical symptoms with high frequency. 虽然头痛的范围与颜面部及颈项部的分界线不十分严格。但一般来说为眉弓以上以及后发际以上的部位。It is restricted to the region between superciliary arch and posterior hair margin.

偏头痛的确切病因未明。The definite causes of migraine remain unclear.偏头痛有许多类型，其病因和发病过程牵涉到许多不同的因素。There are many subtypes of migraine, and large varieties of factors contribute to the etiology and onset. 与偏头痛的病因有关的因素有：遗传因素 脑电活动和脑血流的因素、血小板和生化因素(主要是5一羟色胺)、饮食因素、内分泌因素。The factors associated to migraine include heredity, cerebral electoral activities, cerebral blood flow, platelet, biochemical disturbance (mainly 5- hydroxytryptamine), diet and endocrine disorders. 精神紧张、过度疲劳、气候改变也可认为是诱发因素。 Anxiety, excessive fatigue and climate changes may be the potential factors.

偏头痛可分为伴有先兆型(旧称典型偏头痛)、不伴有先兆型(旧称普通型偏头痛)和特殊类型偏头痛三种。It can be classified into migraine with aura (typical migraine), migraine without aura(common migraine) and special type of migraine. 临床表现重点掌握好典型偏头痛的前驱症状，先兆及头痛发生的部位、性质、伴随症状、持续时间。The key points of clinical manifestation of migraine with aura include prodromes, aura, location and characteristics of pain, concomitant symptoms as well as duration.

偏头痛的诊断要点：The key points for diagnosis include:① 头痛是反复发生的偏侧或双侧的头痛，搏动性，常伴恶心、呕吐、畏光、畏声，持续4～72小时；① Unilateral or bilateral pulsatile headache, usually accompanied by nausea, vomit as well as sensitivity to light and noise with duration between 4 to 72 hours;② 女性多于男性；② Females are more susceptible than men;③ 发病的年龄；③Age; ④ 发作的间歇期，神经系统检查无阳性定位体征；④ Absence of neurological signs during [inter-ictal phase](http://www.baidu.com/link?url=VelPT_oVqcnQQ330_MeihLnVB3v3JGDwTav1JzxAa12FzqZsWA-pD2HHdeJYAJEjPQjvL38hiDVBZR5-5LdZ7479sxeVHh8DhdymyEvU2chiztGbQ3UEZmGwnc9rU-lD); ⑤ 麦角胺制剂对头痛有效。要与其他血管性头痛、颅内占位性病变及血管性病变、局限性癫痫发作、神经官能症、紧张性头痛等作鉴别。 ⑤Effectiveness of ergotamine. Migraine should be discriminated from vascular headache, intracranial occupational lesion, cerebrovascular diseases, focal seizure, neurosis and tension headaches.

偏头痛的治疗要掌握发作时治疗与间歇期治疗(即预防治疗)的不同。The treatments of migraine during onset differs from that during [inter-ictal phase](http://www.baidu.com/link?url=VelPT_oVqcnQQ330_MeihLnVB3v3JGDwTav1JzxAa12FzqZsWA-pD2HHdeJYAJEjPQjvL38hiDVBZR5-5LdZ7479sxeVHh8DhdymyEvU2chiztGbQ3UEZmGwnc9rU-lD). 前者投予止痛镇静药物，特别是麦角胺制剂如口服的麦角胺咖啡因片或注射用的酒石麦角胺(强调麦角胺的恰当用法及其副作用)。The former are analgesia and sedation, especially the ergotamine pharmaceutics including oral ergotamine and caffeine as well as intravenous ergotamine tartrate (the proper usage and side effects). 后者可选用心得安、苯噻啶、西比灵(钙通道阻滞剂)、阿米替林、甲基麦角酸丁醇酰胺。应尽量消除各种发作的诱因。The latter include propranolol, pizotifen, sibelium (calcium channel blockers), amitriptyline and methysergide, and it is of significance of removing any precipitating factors.

**教学基本要求：****Basic teaching requirement**

一般了解：头痛的一般概念，偏头痛病因的有关因素。General comprehension：Concepts of headaches, Factor associated with the etiology of migraine.

牢固掌握：偏头痛的临床表现，诊断和鉴别诊断，治疗原则。Solid grasp: Clinical manifestation, diagnosis, differential diagnosis, principles of therapeutics.

**重点与难点：****Emphases and Difficulties**

本章的重点与难点是偏头痛的临床表现。Emphases and Difficulties of this chapter are clinical manifestation of migraine.

**第七章 癫 痫**

Chapter 7 Epilepsy

**病因 Etiology：**原发性：病因未明，与遗传因素有关。Primary epilepsy: Unknown cause, may related to hereditary factors. 继发性(症状性)：脑先天性疾病、脑外伤、脑缺氧、颅内感染、颅内肿瘤、脑血管疾病、脑变性疾病、营养代谢疾病和中毒、高热惊厥、其它。Secondary (symptomatic) epilepsy: congenital brain diseases、traumatic brain injury、cerebral hypoxia、 intracranial infection、intracranial tumor、 cerebrovascular disease、neuro-degenerative diseases、 nutritional and metabolic diseases, toxication、febrile convulsion、others. 影响癫痫的各种因素：遗传、环境、年龄、内分泌改变、睡眠、各种诱发因素。Influence factors:heredity、environment、age、 endocrine change、sleep、other inducement.发病机理：癫痫活动的发生； 癫痫发作的起始和传播。Pathogenesis: The occurrence of epileptic activity. Onset and spreading of epileptic seizure.

**临床表现：The clinical manifestations :**(1) 强直阵挛性发作：以发作性意识丧失和全身抽搐为特征。发作时临床表现可分为三个阶段：惊厥前期(局部症状是感觉性的，事后能回忆，称为先兆期)；惊厥期；惊厥后期。Tonic-clonic seizure: Characterized as paroxysmal loss of consciousness and tics of the whole body, and can be divided into three stages: Preeclampsia (also called pre-symptom phase: local symptom is sensory and can be recalled after the event). Convulsion phase. Convulsion later phase.(2) 失神发作：以短暂意识障碍为特征：表现为突然发生和突然终止的意识障碍(一次持续5～30秒)，病人当时停止活动，呼之不应，两眼瞪视，眼睑可能发生3～5次／秒的微细颤动。Absence seizure: Characterized as transient disorder of consciousness: sudden occurrence and termination (lasts for 5 ~ 30 seconds at a time). When attack comes, Patients stopped movement immediately without response to outside: their eyes both keep staring to one direction, eyelids may vibrate imperceptibly 3 ~ 5 times/sec. 事后立即清醒，对发作无记忆。每日常十余次甚则百余次发作。 They will awake immediately when the attack ends and having no memory to the attack. One can have more than 10 times or even hundreds of times seizure each day.(3) 肌阵挛性发作：表现为短促(1～2秒)的双侧肌阵挛，多见于颈部，上肢和躯干的屈曲肌。Myoclonic seizure: Characterized as transient (1 ~ 2 seconds) bilateral myoclonus, flexion muscles in the neck; upper limbs and trunk are more common. (4) 单纯部分性发作：以局部症状为特征，发作多短促，自数秒至数十秒钟，如不扩展成大发作，则意识无障碍。Simple partial seizure: characterized as local symptoms. The seizures are often short, from a few to tens of seconds. No consciousness disorder happens if the partial seizures don’t expand to generalized seizure. 运动性发作：阵挛性发作；失语性发作；旋转性发作。感觉性发作：Focal motor seizure:clonic seizure; aphasia seizure; rotation seizure.体感性发作；特殊感觉性发作。Focal sensory seizure: body perceptual seizure; special sensory seizure.(5) 复杂部分性发作也称精神运动性发作或颞叶癫痫：其特征为：(5) Complex partial seizure: also known as psychomotor seizure or temporal lobe epilepsy. Characteristics as: 发作性意识障碍；paroxysmal consciousness disorder; 发作性精神自动症； paroxysmal mental automatisms; 特殊感觉性发作(幻觉、错觉)； special sensory seizure(hallucination and delusion); 内脏感觉性发作；visceral sensory seizure; 情感障碍性发作；emotional disorder seizure;精神感觉性发作；spiritual and sensory seizure;思维障碍性发作。thought disorder seizure.(6) 癫痫持续状态：癫痫强直阵挛性发作在短期内频繁发作，以至患者意识持续丧失者。常伴有高热、脱水、白细胞增高和脑水肿及酸中毒等。 Status epilepticus：Tonic-clonic seizures occur frequently in the short term, leading to the continually loss of patient’s consciousness.

**检查： Examination：**脑电图：脑电图检查：强调脑电图检查的重要性和相对局限性；Electroencephalogram (EEG) :Emphasize the importance and limitations of EEG. The general EEG examination is most commonly used.一般作常规脑电图检查，必要时加用蝶骨电极、鼻咽电极或美解眠诱发试验，亦可作24小时脑电图监测。Special EEG can be optional when necessary, such as sphenoidal electrode and nasopharyngeal electrode or megimide activation test when necessary, 24-hour EEG monitoring is another option.其它辅助检查：按需要选择下列检查：腰椎穿刺脑脊液检查，头颅x线平片，脑血管造影，经颅多普勒检查，头颅CT，头颅MRI，脑SPECT、PET。 Other auxiliary examinations: following examinations can be done according to different clinical manifestations: lumbar puncture for cerebrospinal fluid examination, skull X-ray plain film, cerebral angiography, transcranial Doppler, brain CT, brain MRI and brain SPECT、PET, ect.

**诊断和鉴别诊断：Diagnosis and differential diagnosis：**(1) 诊断依据：根据详细的病史、神经系统检查，并向目睹者仔细了解整个发作过程，大多可作出诊断。Diagnosis basis: Most cases can be diagnosed based on detailed medical history, neurological examination and careful understanding of the entire seizure process according to the witnesses.(2) 癫痫诊断确立后，需区别原发性或继发性癫痫，必要时作脑电图和其他辅助检查。After the diagnosis of epilepsy, doctors need to distinguish primary or secondary epilepsy. EEG and other auxiliary examinations are necessary.(3) 鉴别诊断：与癔病及各种原因所致的意识障碍和抽搐相鉴别。 Differential diagnosis: consciousness disorder and tics caused by hysteria or other various reasons.

**防治： Prevention and treatment：**(1) 预防：包括对各种已知的致痫因素的预防。Prevention: prevention of the known causes of epilepsy.(2) 病因治疗：上述病因的治疗。 Etiological treatment: the treatment of the above causes.(3) 对症治疗：Symptomatic treatment:抗癫痫药物的应用原则和药物选择，癫痫的诊断一旦成立，而又无对因治疗指征，且每年发作二次以上者，需长期正规、合理服抗癫痫药物。 The using principles and selection of antiepileptic drug. Once the epilepsy diagnosis established, patients need to take anti epilepsy drugs regularly and reasonably for long term if they have attacks more than two times each year and have no indications for etiological treatment.服药前告知患者及家属以取得合作。Patients and their family members (caregivers) should be fully informed before taking medication in order to achieve the best cooperation.按发作类型用药合理选择抗癫痫药物.Have a rational choice of antiepileptic drugs according to seizure types.药物剂量：口服自低限开始，如不能控制，在药物血浓度监测下逐渐加量。Drug dosage: starting from the low limit, increase dose gradually if the seizures could not be controlled. The drug blood concentration should be monitored all the time.合并用药：单药疗效不佳，或拮抗第一种药副反应时可合并用药。Combination therapy: Drug combination is necessary when the single drug treatment effect is not good enough, or when the aiming is at the antagonism of the first drug’s side effects.合用药时避免药理作用相同、副反应相似的药物。 Do avoid use drugs which have same (similar) pharmacological effects or similar side effects.副作用：针对副作用程度分别处理，同时定期检查防止副反应出现。Side effects: give treatment respectively according to the level of side effects, and regularly check to prevent the emergence of side effects at the same time.治疗终止：Treatment termination:根据不同发作类型决定治疗的终止时间。According to the type of seizure.发作时的治疗(指癫痫大发作及精神运动性发作时的紧急处理)。Treatment of attacks (namely the emergency treatment of generalized seizure and psychomotor seizures).癫痫持续状态的治疗(大发作)：重点介绍依次选用安定静脉注射。The treatment of status epilepticus (generalized seizure)：Focus on the introduction of the graded methods: intravenous injection of diazepam.并发症的治疗：如脑水肿，水电解质和酸碱平衡紊乱，肺部感染，高热，心血管机能不全，休克等。Treatment of complications: such as brain edema, water electrolyte and acid-base balance disorders, pulmonary infection, high fever, cardiovascular insufficiency, shock, etc.

**教学基本要求：****Basic teaching requirement**

一般了解：癫痫的病因和发病机理，防治方法。General comprehension：The etiology, pathogenesis and prevention and control methods of epilepsy.

牢固掌握：癫痫的临床表现、诊断和鉴别诊断，抗癫痫治疗的用药原则。Solid grasp: The clinical manifestations, diagnosis and differential diagnosis of epilepsy, the principle of medication in the treatment of epilepsy.

**重点与难点:****Emphases and Difficulties**

本章的重点与难点是各种癫痫的的临床表现与鉴别。Emphases and Difficulties of this chapter are the clinical manifestations and identifications of various kinds of epilepsy.

**第八章 锥体外系疾病**

Chapter 8Extrapyramidal disease

第一节 概 述

Section 1 Introduction

锥体外系主要由壳核、尾核、苍白球和黑质组成，位于大脑基底节，它们之间有错综复杂的联系通路，有来自大脑皮质运动区的和返回大脑皮质运动区的传递环路，也有由纹状体发至脊髓的纹状脊髓束至前角细胞。Extrapyramidal system is mainly composed of the putamen, and caudate, pallidus and nigra. There are intricate pathways in the basal ganglia, coming from the cortical motor area and return the transmission loop of the cortex movement area, as well as the spinal cord anterior horn cells from the striatum to spinal cord .主要功能是控制肢体肌张力，全身运动协调，维持姿势调节反射和下运动神经元的反射控制。Main function of extrapyramidal system is to control the muscle tone of limbs, coordinate the whole body movement, maintain posture adjusting reflex and control motor neurons.损害时出现临床症状有两大类：(1) 肌张力不全、动作增多综合征；(2) 肌张力增高、动作减少综合征。If damaged, the clinical symptoms has two categories: (1)Hypomyotonia-hyperkinesia syndrome; (2) Hypermyotonia-hypokinesia syndrome. 神经元间的递质较多，有多巴胺、乙酰胆碱、5一羟色胺、7一氨基丁酸、去甲肾上腺素等，它们贮于神经突触小泡内与后膜受体相结合，神经冲动时放出，起着兴奋、抑制作用，互相制约而平衡。There are lots of neurotransmitter between neurons, including dopamine, acetylcholine, 5-hydroxytryptamine, 7- aminobutyric acid, norepinephrine and so on.They are stored in the synaptic vesicles with combination of membrane receptor. When the nerve impulse released, perform excitement and inhibition, restrict and balance each other. 如它们之间失平衡就发病。If lose balance, it will cause disease.

第二节 帕金森病

Section 2 Parkinson disease

* 帕金森病是黑质纹状体通路损害所致疾病，病因是综合性的，其中以老年变性为主要因素。Parkinson's disease is a disease caused by the damage of substantia nigra - striatum pathways. The etiology is comprehensive with the main factors of senile degeneration. 病理见黑色素细胞减少，致血中多巴胺递质减少。Pathological present the reduction of melanin cells, which lead to the reduction of dopamine in the blood.
* 临床表现多见于50岁以上的人，有静止性、节律性震颤，典型表现如“搓丸样”,有肌强直，表情动作减少，有“面具脸”和前倾的屈曲体态。运动减少，精细动作困难，出现“小写症”和“慌张步态”，Clinical symptoms can be mainly found in people over 50, characterized by rhythmic and static tremor which typically perform as “pill-rolling-like” tremor, rigidity, bradykinesia, "mask face" and forward-bending posture, micrographia, and "panic gait". 也可有植物神经紊乱和脑萎缩症状。In addtion, autonomic functional disturbance and encephalatrophy can also be found.
* 诊断主要根据发病年龄及典型症状和体征。Diagnosis is mainly based on the onset age and typical signs and symptoms. 鉴别诊断主要是与震颤麻痹综合征鉴别，后者可找到致病的各种原因。Differential diagnosis primarily identified against parkinsonism syndrome, which can find the various etiology.
* 治疗以药物为主，也有手术，但只能缓解一段时期的症状，Treatment is given priority to with medicine and surgery, but the symptoms can only be alleviated for a period. 药物多用：1)抗胆碱能药物，如安坦。2)促进神经末梢释放多巴胺，如金刚胺。3)替代疗法：多巴胺不能通过血脑屏障，因此补充能通过血脑屏障的L—dopa及其复合制剂，待其在脑内脱羧后起作用。Drug using: 1) the anticholinergic drugs, such as artane. 2) to promote nerve terminal release dopamine, such as amantadine. 3) replacement therapy: dopamine can not go through the blood brain barrier, so add L - dopa and its compound which can pass the blood brain barrier and work after decarboxylation in the brain.使用原则从小量开始，逐渐增加，强调用药量的个体化， Medication principle: from small start, gradually increase, emphasized the individual dose. 用药中通常可见反应有：①“剂末反应”；②“开关反应”；③多巴胺增多对内脏各器官的损害。The reaction to drugs: ① "end of dose" phenomenon;② "switch" reactions;③ damage to visceral organ from the increased dopamine. 4)多巴胺能受体激动剂，如溴隐亭；4) dopaminergic agonists, such as bromocriptine; 5)单胺氧化酶抑制剂，如L-deprenyl。5) monoamine oxidase inhibitors, such as L - deprenyl. 手术治疗：掌握适应症，方法有多种，目前较多是用置换法，如胎儿黑质放置于患者的尾核中。Surgical treatment: master the indications. There are many methods, displacement method is more popular. For example, place the fetal nigra into the patient’s caudate.

**教学基本要求：****Basic teaching requirement**

一般了解：锥体外系中神经元间的传递、递质及其作用和平衡；帕金森病的生化变化及多巴胺的代谢过程。General comprehension：Transmission between neurons, neurotransmitters’ function and their balance in extrapyramidal system ;Biochemical changes of Parkinson's disease and the metabolic process of the dopamine.  
一般掌握：锥体外系的组成部分及大脑基底节的应用解剖，生理功能及其损害时的临床表现。General grasp: Clinical manifestations and symptoms of Parkinson's disease.  
牢固掌握：帕金森病的临床症状和体征；帕金森病的病因、症状、诊断、鉴别诊断与治疗。Solid grasp: The component of extrapyramidal and the anatomy of basal ganglia , the clinical manifestations of the physiological function if damaged; The etiology, symptoms, diagnosis, differential diagnosis and treatment of Parkinson's disease.

**重点与难点：****Emphases and Difficulties**

本章的重点与难点是帕金森病的临床表现与鉴别。Emphases and Difficulties of this chapter are clinical manifestations and differential diagnosis of Parkinson's disease.

**第九章 中枢神经系统脱髓鞘疾病**

**Chapter 9 Demyelinating Diseases of the Central Nervous System**

多发性硬化(包括视神经脊髓炎)

Multiple sclerosis(including neuromyelitis optica)

髓鞘细胞在中枢神经系统中少树突胶质细胞，于周围神经系统是许旺氏细胞，髓鞘由髓鞘细胞的细胞膜组成。Myelin sheath is formed from the cell membrane of the oligodendrocytes in the central nervous system and the Schwann cell in the peripheral nervous system. 病变主要限于髓鞘，而神经元本身变化很少的疾病为脱髓鞘病。A demyelinating disease is any disease which mainly involves the myelin sheath, while the neurons are little damaged.多发性硬化(包括视神经脊髓炎)为一种特定性地针对中枢神经白质、导致其脱髓鞘的自身免疫病。Multiple sclerosis (including neuromyelitis optica)is a kind of autoimmune disease which specifically affect the white matter in central nervous system, leading to demyelinating.其发病机制有两种学说：免疫学说和病毒学说。There are two theories about the pathogenesis: immunological theory and virus infection theory.目前比较一致的看法认为本病是易感体由于病毒感染所诱发的自身免疫性疾病。At present, the consensus view is that multiple sclerosis is an autoimmune disease which induced by susceptibility to virus infection.本病的病理特征是中枢神经系统内存在着多病灶的脱髓鞘斑，斑块多有围绕静脉分布的淋巴细胞、浆细胞和巨噬细胞等炎性细胞浸润。 The pathology of the disease is characterized by the multifocal demyelinating plaques in the CNS, which infiltrated by inflammatory cells such as lymphocytes, plasma cells and macrophages around the veins.

本病多在20～40岁之间发病，发病数女略多于男。其首发症状多为单眼(有时双眼)视力减退，复视，单肢或多肢肌无力，感觉异常，共济失调，尿失禁，智能、情绪改变等，其典型的症状和体征是由于白质传导束、视神经、脑室周围白质、脑干和小脑病变所致。其病程多以缓解复发为特征。Multiple sclerosis usually onset between the age of 20-40 and is more common in women. The first symptoms include unilateral (sometimes bilateral) hypopsia, diplopia, muscle weakness, paresthesia, ataxia, uracratia, cognitive decline, mood disorders, etc. The typical signs and symptoms may be due to lesions of white matter tracts, optic nerve, periventricular white matter, brain stem and cerebellum. The clinical course characteristically presents relapsing-remitting.

目前虽无一种特异性的检验方法可用以确诊本病，但脑脊液检查可提供中枢神经系统内自身免疫反应的客观佐证；诱发电位、CT或MRI(尤其是MRI)可发现一些尚无临床表现的脱髓鞘病灶，有助于提高确诊率。Although there has been no specific tests which can be used to make a definitive diagnosis of MS, testing of cerebrospinal fluid can provide objective evidence of CNS autoimmune reaction, and evoked potential, neuroimaging (CT or MRI, especially MRI) can find the potential demyelinated lesions with no symptoms which could improve diagnostic accuracy.

临床诊断的主要依据是中枢神经系统白质病变的证据，且有其部位及时间上的多发，同时要排除其他疾病，由于本病症状和体征的多灶性，可以模拟多种神经系统疾病，因此必须仔细认真地与其他神经系统疾病进行鉴别，特别要与大脑、脑干、小脑、脊髓肿瘤以及脑血管病进行鉴别。The clinical diagnosis mainly based on the evidence of white matter lesions in the CNS at different times and in different areas, excluding other diseases. Due to the multifocality of signs and symptoms, a variety of neurological diseases could be simulated. Therefore, we must distinguish it carefully from other diseases of nervous system, especially tumors of cerebrum, brainstem, cerebellum, spinal cord and cerebrovascular disease.

本病目前免疫修饰疗法屡经证明多数有效。急性期病例可用甲基强的松龙冲击疗法。The Immune modifier therapy has proven mostly effective. Shock therapy of methylprednisone is the usual treatment during **acute phase**.

**教学基本要求：****Basic teaching requirement**

一般了解：髓鞘的解剖、生理、生化，脱髓鞘病的病理解剖、病理生理、疾病分类，进而掌握其临床表现、诊断和治疗。General comprehension：The anatomy, physiology and biochemistry of myelin sheath, the pathoanatomy, pathophysiology and classification of the demyelinating diseases.

牢固掌握：多发性硬化、视神经脊髓炎、急性播散性脑脊髓炎的临床表现、诊断及鉴别诊断、处理、治疗原则。Solid grasp: The manifestation, diagnosis and treatment of the demyelinating diseases. Master: the clinical manifestation, diagnosis, differential diagnosis, management and treatment principle of multiple sclerosis, neuromyelitis optica and acute disseminated encephalomyelitis

**重点与难点：****Emphases and Difficulties**

本章的重点与难点是多发性硬化的诊断标准。 Emphases and Difficulties of this chapter are the teaching importance and difficulties of the chapter are the diagnostic criteria of multiple sclerosis.

**第十章 中枢神经系统感染性疾病**

Chapter 10 Infectious diseases of the central nervous system

第一节 概 述

Section 1 Introduction

病原微生物侵犯中枢神经系统（central nervous, CNS）的实质、被膜及血管等引起的急性或慢性炎症性（或非炎症性）疾病即为中枢神经系统感染性疾病。Infectious diseases of the central nervous system are acute or chronic inflammatory (or non-inflammatory) diseases caused by pathogenic microorganisms invading the parenchymal, capsule and blood vessels of the central nervous system (CNS). 病原微生物包括病毒，细菌，真菌，螺旋体，寄生虫，立克次体和朊蛋白等。Pathogenic microorganisms include viruses, bacteria, fungi, spirochetes, parasites, rickettsia and prion proteins. 依据中枢神经系统感染部位的不同可分为:①脑炎、脊髓炎或脑脊髓炎:主要侵犯脑和(或)脊髓实质;②脑膜炎、脊膜炎或脑脊膜炎:主要侵犯脑和(或)脊髓软膜;③脑膜脑炎:脑实质与脑膜合并受累。According to the different parts of the central nervous system infection can be divided into :① encephalitis, myelitis or encephalomyelitis: mainly involving the brain and/or spinal parenchyma;Meningitis, meningitis or meningitis: the main invasion of the brain and/or spinal cord pia;③ Meningoencephalitis: cerebral parenchyma and meninges are involved. 病原微生物主要通过三种途径进入CNS :①血行感染;②直接感染;③神经干逆行感染。Pathogenic microorganisms enter CNS mainly through three ways :① blood-borne infection;② Direct infection;③ Retrograde nerve trunk infection.

第二节 病毒感染性疾病

Section 2 Viral infectious diseases of the central nervous system

一、单纯疱疹病毒性脑炎 Herpes simplex virus encephalitis

单纯疱疹病毒性脑炎是由单纯疱疹病毒感染引起的。Herpes simplex virus encephalitis is caused by herpes simplex virus infection. 在人类大约90%HSE由HSV-1引起，10%由HSV-2所致。In humans, about 90% of HSE is caused by HSV-1 and 10% by HSV-2. 急性起病，临床常见症状包括头痛，呕吐，意识和人格改变，记忆丧失，轻偏瘫，偏盲，失语，共济失调，多动，脑膜刺激征。约1/3的患者出现全身性或部分性癫痫发作。Common clinical symptoms include headache, vomiting, changes in consciousness and personality, memory loss, mild hemiplegia, hemiblindness, aphasia, ataxia, hyperactivity, and meningeal irritation.About one-third of patients have generalized or partial seizures. 辅助检查有血常规，脑电图，头颅影像学，脑脊液常规，脑脊液病原学，脑活检。Assistant examinations include blood routine, electroencephalogram, cranial imaging, cerebrospinal fluid routine, cerebrospinal fluid etiology and brain biopsy. 脑脊液检查的特征性变化。Characteristic changes in cerebrospinal fluid examination. 要与带状疱疹病毒性脑炎，肠道病毒性脑炎，巨细胞病毒性脑炎，急性播散性脑脊髓炎鉴别。Differential diagnosis：herpes zoster virus encephalitis, enteric virus encephalitis, cytomegalovirus encephalitis, acute disseminated encephalomyelitis. 治疗包括抗病毒治疗，辅以免疫治疗和对症支持治疗。Treatment includes antiviral therapy supplemented by immunotherapy and symptomatic support therapy.

二、病毒性脑膜炎 Viral meningitis

85%-95%病毒性脑膜炎由肠道病毒引起。85%- 95% of viral meningitis is caused by enteroviruses. 临床表现：急性起病，头痛，发热，以及其他全身中毒症状，脑膜刺激征阳性。Clinical manifestations: acute onset, headache, fever, and other systemic poisoning symptoms, meningeal irritation sign positive. 辅助检查主要是脑脊液的改变。The assistant examination was mainly for cerebrospinal fluid changes. 治疗主要包括对症治疗，支持治疗和防治并发症。Treatment mainly includes symptomatic treatment, supportive treatment and prevention and treatment of complications.

第三节 化脓性脑膜炎

Section 3 Purulent meningitis

化脓性脑膜炎是由化脓性细菌感染所致的脑脊膜炎症。Purulent meningitis is by purulent bacterium infection the brain spinal membrane inflammation that causes. 临床表现：感染症状，脑膜刺激征，颅内压增高，局灶症状。Clinical manifestations: infection symptoms, meningeal irritation, increased intracranial pressure, focal symptoms. 辅助检查包括：血常规，脑脊液检查，影像学检查。Assistant examinations：blood routine, cerebrospinal fluid, imaging. 脑脊液检查：压力升高，外观浑浊，细胞数明显升高，以中性粒为主，蛋白质升高，糖含量下降，氯化物下降. Cerebrospinal fluid examination: increased pressure, cloudy appearance, significantly increased cell number, mainly neutral granules, increased protein, decreased sugar content, decreased chloride. 鉴别诊断：病毒性脑膜炎，结核性脑膜炎，隐球菌性脑膜。Differential diagnosis：viral meningitis, tuberculous meningitis, cryptococcosis meningitis. 治疗包括抗菌治疗，激素治疗，对症支持治疗。Treatment includes antimicrobial therapy, hormone therapy, and symptomatic support therapy.

第四节 结核性脑膜炎

Section 4 Tuberculous meningitis

结核性脑膜炎是由结核杆菌引起的脑膜和脊膜的非化脓性炎症性疾病，是结核病中最严重的肺外结核病型。Tuberculous meningitis is a non- purulent inflammatory disease of the meninges and meninges caused by mycobacterium tuberculosis. It is the most serious extrapulmonary form of tuberculosis. 多隐匿起病，慢性病程，也可能急性起病。More insidious onset, chronic course, may also acute onset. 临床表现：1）结核中毒症状；2）脑膜刺激征和颅内压升高；3）脑实质损害；4）脑神经损害。Clinical manifestations include 1) tuberculosis poisoning symptoms;2) meningeal irritation and increased intracranial pressure;3) Brain parenchyma damage;4) Brain nerve damage. 辅助检查主要依靠脑脊液改变。Assistant examination mainly depends on cerebrospinal fluid changes. 鉴别诊断：病毒性脑膜炎，化脓性脑膜炎，隐球菌性脑膜。Differential diagnosis：viral meningitis, purulent meningitis, cryptococcosis meningitis. 治疗原则是早期给药、合理选药、联合给药及系统治疗。The therapeutic principles are early administration, rational drug selection, combined administration and systematic treatment. ①抗结核治疗，异烟肼、利福平、吡嗪酰胺或乙胺丁醇、链霉素是治疗TBM最有效的联合用药方案。Antituberculous therapy, isoniazid, rifampicin, pyrazinamide or ethambutol and streptomycin are the most effective combination regimens for TBM. ②皮质类固醇集素；③药物鞘内注射；④降颅内压；⑤对症及全身支持治疗。② Corticosteroid agglutinin ③ intrathecal drug injection ④ reduced intracranial pressure ⑤ symptomatic and systemic supportive treatment.

第五节 新型隐球菌性脑膜炎

Section 5 Cryptococcosis meningitis

新型隐球菌性脑膜炎是中枢神经系统最常见的真菌感染，由新型隐球菌感染引起，病情重，病死率高。Cryptococcosis neoformans meningitis is the most common fungal infection of central nervous system. It is caused by cryptococcus neoformans infection. 起病隐匿，进展缓慢。The onset is insidious and the progress is slow. 早期可有不规则低热或间歇性头痛。查体多数患者有颈强直和Kernig征，多数患者出现颅内压增高症状和体征。Early may have irregular low fever or intermittent headache. Physical examination showed that most patients had stiff neck and Kernig sign, and most patients showed symptoms and signs of increased intracranial pressure. 脑脊液检查检出隐球菌可确诊。The diagnosis can be confirmed by detection of cryptococcus by cerebrospinal fluid examination. 鉴别诊断：结核性性脑膜炎，化脓性脑膜炎。Differential diagnosis： tuberculous meningitis, purulent meningitis. 治疗包括抗真菌治疗和对症全身治疗。

第六节 自身免疫性脑炎

Section 6 Autoimmune encephalitis

自身免疫性脑炎是一类自身免疫机制介导的针对中枢神经系统抗原产生免疫反应所导致的脑炎。Autoimmune encephalitis is a type of encephalitis caused by autoimmune mediated immune responses to central nervous system antigens. 自身免疫性脑炎主要表现为精神行为异常、认知功能障碍、近事记忆力下降、急性或亚急性癫痫发作、语言功能障碍以及不同程度的意识障碍。The main manifestations of autoimmune encephalitis are mental behavior abnormalities, cognitive dysfunction, near-event memory decline, acute or subacute seizures, language dysfunction and different degrees of consciousness disorders. 辅助检查包括脑脊液检查，影像学检查和脑电图检查。Assistant examinations include cerebrospinal fluid, imaging and electroencephalogram. 鉴别诊断：病毒性脑炎，代谢性脑病。Differential diagnosis: viral encephalitis, metabolic encephalopathy. 免疫治疗包括糖皮质激素，丙球冲击治疗，癫痫发作者予抗癫痫治疗，精神症状明显者予抗精神症状治疗。Immunotherapy included glucocorticoid, propyl pellet shock therapy, antiepileptic therapy for patients with epilepsy, and antipsychotic therapy for patients with obvious psychiatric symptoms. 大部分患者预后良好。Most patients have a good prognosis.

**教学基本要求：Basic teaching requirement**

一般了解：引起中枢神经系统感染的各种病原体，微生物感染中枢神经系统的途径。

General comprehension： Various pathogens that cause infections of the central nervous system, and the pathways by which microorganisms infect the central nervous system.

牢固掌握：病毒性脑膜炎，化脓性脑膜炎，结核性脑膜炎，新型隐球菌性脑膜炎，自身免疫性脑炎的临床表现、诊断和鉴别诊断，病毒性脑膜炎，化脓性脑膜炎，结核性脑膜炎，新型隐球菌性脑膜炎，自身免疫性脑炎的治疗原则。Master: Clinical manifestations, diagnosis and differential diagnosis of viral meningitis, suppurative meningitis, tuberculous meningitis, cryptococcosis meningitis, autoimmune encephalitis, principles of treatment of viral meningitis, purulent meningitis, tuberculous meningitis, cryptococcosis meningitis, and autoimmune encephalitis.

**重点与难点:Emphases and Difficulties**

本章的重点与难点是各种脑炎的临床表现与鉴别。Emphases and Difficulties of this chapter are the clinical manifestations and identifications of various kinds of encephalitis.

**第十一章 神经肌肉接头和肌肉疾病**

Chapter 11 Diseases of neuromuscular junction and muscles

肌肉疾病包括肌肉本身和神经肌肉接头处，由于遗传因素、内分泌、免疫、代谢以及炎症、中毒等原因所引起的一组疾病。Neuromuscular diseases are a group of diseases including muscles and neuromuscular transmission, which are caused by genetic, endocrine, immunological,metabolic、inflammation and poisoning factors and so on. 神经冲动经神经肌肉接头到肌肉收缩传递过程发生的电生理和生化改变。The electrophysiological and biochemistry changes occurred during nerve impulses transfer from neuromuscular transmission to muscles contraction.

第一节 重症肌无力

Section 1 Myasthenia gravis

重症肌无力是累及神经肌肉接头的自身免疫性疾病。 Myasthenia gravis is an autoimmune disorder of neuromuscular transmission. 该病通常以骨骼肌波动性无力, 缓解和加重为临床特征。It is usually characterized by fluctuating weakness of skeletal muscles with remissions and exacerbations. 2/3的患者以眼外肌无力为首发症状，表现为眼睑下垂和复视。Two thirds of patients show extraocular muscle involvement initially, with the manifestations including ptosis and diplopia. 随后症状波及咽喉肌和四肢肌肉，甚至呼吸无力，导致生命威胁。Gradually, these patients also show throat and limb muscle involvement, and even respiratory muscle weakness which may be life-threatening.症状在休息后或用抗胆碱酯酶药后减轻。Clinical characters are fluctuating weakness which will be improved by inhibitors of cholinesterase or rest.乙酰胆碱受体抗体导致该病。Anti-acetylcholine receptor antibodies (Anti-AChR-Ab) are responsible for the failure of neuromuscular junction in myasthenia gravis (MG) .诊断根据受累肌肉无力，病态疲劳，病程波动，无其它神经系统阳性体征。 The diagnosis is due to the weakness of the muscles.The fluctuating nature and no other positive symptom of neurological systems. 结合疲劳试验，药物试验，血清AchR抗体测定，肌电图等辅助检查协助诊断。 Jolly test, drug test, AchR Antibodies detect and EMG would help to make diagnosis. 要与肌无力综合征(Lambert—Eaton综合征)、吉兰一巴雷综合征、脑干病变等鉴别。It needs to differentiate from Lambert-Eaton syndrome, AIDP、 brainstem lesions etc. 治疗包括抗胆碱酯酶药物、糖皮质激素、免疫抑制剂、胸腺切除、血浆交换等。Treatments include anticholinesterase therapy, corticosteroid ,immunotherapy, thymectomy, plasmapheresis etc.危象的处理以及慎用和忌用的药物。Crisis therapy and the caution of using drugs.

第二节 周期性瘫痪

Section 2 Periodic paralysis

周期性瘫痪是以反复发作的骨骼肌松驰性瘫痪为特征的一组疾病。 Periodic paralysis is a group of diseases which is characterized by recurrent skeletal muscle relaxation paralysis .常见有低钾性、高钾性及正常钾性三种，以低钾性周期性瘫痪为代表。It is classified into hypokalemic periodic paralysis, hyperkalemic periodic paralysis, normal kalemic periodic paralysis, while hypokalemic periodic paralysis is the most common type . 主要临床表现为有诱因的发作性四肢对称性松驰性瘫痪，无感觉障碍。The main clinical features are sudden weakness with inducement and no sense impediment. 血清钾通常低于3.0 mmol/L，心电图有低血钾的特征性改变。The serum potassium falls to below 3.0 mmol/L. ECG has the diagnostic change of low potassium. 诊断根据上述临床表现及辅助检查。Diagnosis is due to the clinical features and lab exam. 鉴别诊断除了与吉兰一巴雷综合征鉴别外，还应注意与其他引起血钾降低的疾病鉴别，如：甲亢，原发性醛固醇增多症，肾小管酸中毒及服用某些药物等。It needs to differentiate from Guillian-Barre syndrome and secondary hypokalaemic periodic paralysis such as Kidney or adrenal failure, Renal tubular acidosis, drugs by taking potassium depleting diuretics. 急性期治疗要口服5-10克氯化钾。Acute attacks is treated with 5 to 10 g of oral potassium.

第三节 进行性肌营养不良症

Section 3 Progressive muscular dystrophies

进行性肌营养不良症是一组由遗传因素所致的进行性肌肉变性疾病， 常见类型有Duchenne型、Becker型、面肩肱型及肢带型。Duchenne型为代表。PMD are a group of hereditary muscle disorders. The common types are Duchenne muscular dystrophy (DMD), Becker’s muscular dystrophy (BMD), Facioscapulohumeral muscular dystrophy (FSHD), Limb-girdle muscular dystrophy (LGMD). 其主要临床表现有：进行性四肢近端肌肉萎缩无力，出现翼状肩胛，鸭步和Gower现象；肌肉假性肥大，以小腿腓肠肌最常见。The main clinical features of DMD are progressive weakness and dystrophy of limbs, Duck-like gait, Gower’s sign, pseudohypertrophy of the calf muscles. 辅助检查主要有：血清酶(CPK、LDH)，肌电图及肌活检。Lab tests include CK, EMG and muscle biopsy. 诊断主要根据临床变现和检查，如家族史、3～6岁起病的男孩等。Diagnosis is due to the clinical features and lab test such as at age 3 to 6 years of boys, having family history etc. 鉴别诊断注意与儿童型进行性脊肌萎缩症及多发性肌炎鉴别。It needs to differentiate from spinal muscular atrophy and polymyositis. 由于药物治疗效果不肯定，所以治疗以支持治疗为主。Because drug treatment is not sure, so the support the therapy is very important .预防的主要手段是产前检查。The main means of prevention is to prenatal care.

**教学基本要求：Basic teaching requirement**

一般了解：重症肌无力的病因病理；周期性瘫痪的病因及发病原理；General comprehension：The pathogenesis and pathology of myasthenia gravis; the pathogenesis of hypokalemic periodic paralysis.

一般掌握：进行性肌营养不良症的预防和治疗方法。General comprehension：The prevention and treatment of progressive muscular dystrophies .

牢固掌握：重症肌无力的临床表现和诊断；Solid grasp: The clinical features and diagnosis of myasthenia gravis; 周期性瘫痪的本病的临床表现，诊断和鉴别诊断，防治；The clinical features, diagnosis, differential diagnosis, prevention and treatment of Hypokalemic periodic paralysis;进行性肌营养不良症的几个常见分型及其临床表现，诊断和鉴别诊断。The common classification, clinical features, diagnosis and differential diagnosis of progressive Muscular Dystrophies

**重点与难点：Emphases and Difficulties**

本章的重点与难点是重症肌无力的临床表现。 Emphases and Difficulties of this chapter are the clinical features of myasthenia gravis;

## （三）教学进度表

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **章节次序及名称(细化至节，必填)** | **主要教学内容(必填)** | **所需学时(必填)** | **育人元素** | **重点、难点**  **(选填)** | **周次(选填)** | **备注** |
| 第四章 神经系统疾病的病史采集和体格检查  第一节 病史采集 | 病史采集和神经系统检查 | 2 | 救死扶伤和服务健康的医学职业目的。 | 询问病史和病史记录的重点和方法 | 1 |  |
| 第四章 神经系统疾病的病史采集和体格检查  第二节 体格检查 | 病史采集和神经系统检查 | 2 | 医学职业目的。 | 神经系统检查的步骤、方法 | 1 |  |
| 第二章 神经系统的解剖、生理及病损的定位诊断  第一节 中枢神经  第二节 脑与脊髓血管  第三节 脑神经  第四节 周围神经  第五节 肌肉 | 神经系统疾病定位与定性诊断 | 2 | 社会主义核心价值观，医学职业理想。 | 神经系统各部位损害的表现 | 2 |  |
| 第二章 神经系统的解剖、生理及病损的定位诊断  第六节 运动系统  第七节 感觉系统  第八节 反射  第五章 神经系统疾病的诊断原则  第一节 诊疗程序 | 神经系统疾病定位与定性诊断 | 2 | 社会主义核心价值观，医学职业理想。 | 神经系统各部位损害的表现 | 2 |  |
| 第九章 脑血管疾病  第一节 脑血管疾病的分类  第三节 短暂性脑缺血  第四节 脑梗死  第五节 脑出血  第六节 蛛网膜下腔出血 | 脑血管病 | 3 | 引导学生把人民群众生命安全和身体健康放在首位，尊重患者，善于沟通。健康中国的规划要领，以疾病诊治重点由治疗转向预防。 | 各种脑血管病的鉴别 | 3 |  |
| 第八章 头痛  第一节 偏头痛 | 头痛 | 1 | 引导学生把人民群众生命安全和身体健康放在首位，尊重患者，善于沟通。健康中国的规划要领，以疾病诊治重点由治疗转向预防。 | 偏头痛的临床表现和分类 | 3 |  |
| 第十九章 周围神经疾病  概述  第一节 脑神经疾病  第二节 脊神经疾病 | 周围神经疾病 | 1 | 对生命的尊重意识、对医学的奉献精神、对病人的关怀精神。 | 三叉神经痛、坐骨神经痛、面神经炎的临床表现、诊断、鉴别诊断及治疗 | 4 |  |
| 第十九章 周围神经疾病  第二节 脊神经疾病  第三部分 吉兰巴雷综合症 | 吉兰巴雷综合征 | 1 | 对医学的奉献精神、对病人的关怀精神。 | 吉兰一巴雷综合征的诊断原则和鉴别诊断 | 4 |  |
| 第十八章 脊髓疾病  概述  第一节 急性脊髓炎  第二节 脊髓压迫症  第十二章 运动神经元病 | 脊髓疾病 | 2 | 引导学生把人民群众生命安全和身体健康放在首位，尊重患者，善于沟通。健康中国的规划要领，以疾病诊治重点由治疗转向预防。 | 脊髓各平面损害的表现，脊髓压迫症的鉴别诊断 | 4 |  |
| 第十三章 中枢神经系统感染性疾病  第一节 病毒感染性疾病  第二节 细菌感染性疾病  第三节 新型隐球菌脑膜炎  第四节 自身免疫性脑炎 | 中枢神经系统感染性疾病 | 2 | 新形势下的医务工作者的时代精神，奉献精神。 | 各种脑炎的临床表现与鉴别 | 5 |  |
| 第十五章 中枢神经系统脱髓鞘疾病  第一节 多发性硬化 | 多发性硬化 | 1 | 社会责任感，义务担当。 | 多发性硬化的诊断标准 | 5 |  |
| 第十六章 运动障碍性疾病  第一节 帕金森病 | 帕金森病 | 1 | 社会责任感，义务担当。 | 帕金森病的临床表现与鉴别 | 5 |  |
| 第十七章 癫痫  第一节 癫痫的分类  第二节 癫痫的诊断  第三节 癫痫的治疗  第四节 癫痫持续状态 | 癫痫 | 2 | 医学人文教育。 | 各种癫痫的的临床表现与鉴别 | 6 |  |
| 第二十一章 神经-肌肉接头和肌肉疾病  第二节 重症肌无力  第三节 周期性瘫痪  第五节 进行性肌营养不良 | 肌肉疾病 | 2 | 医学伦理，罕见病的治疗，突现文化自信等。 | 重症肌无力的临床表现 | 6 |  |

合计:24 \*育人元素基本原则：在建议意见的指导下,由各授课老师结合本次课程的疾病特点设

## （四）教学环节安排

（对各种教学环节的安排如：实验、实习、习题课、作业等以及本课程与其他相关课程的联系、分工等作必要说明，教学环节的安排体现高阶性、创新性、挑战度）

1. 大课讲授利用多媒体，结合挂图、投影、录像、模型等进行形象教学，示教神经科基本操作技能(特别是神经系统检查方法)和一些基本理论知识，加深学生对一些基本概念的理解。

2．有计划组织见习带教所需要的病例，以典型病例的示范和讨论来启发学生的临床思维。

3．在实习时认真指导学生进行医疗实践。力争每人能分管6～8张病床，增加其动手机会。要求学生自己发现问题，然后查阅教科书和有关文献，提出疾病的诊断、鉴别诊断和治疗方案，加强独立工作能力的培养。

4. 各阶段的教学质量按“教学质量评估项目”的有关要求分阶段进行评价。全年教学结束后进行全面评估。

## （五）教学方法

（包括课堂讲授、提问研讨，课后习题和答疑等情况，要增加团队学习、小组大作业、实验课和理论课的结合、使用信息技术方法、由教师和知识为中心转化为以学生和学习为中心）

课堂讲授利用多媒体，结合挂图、投影、录像、模型等进行形象教学，每节课后需布置课后思考题，同时要求给学生提供联系邮箱，方便学生课后提问及答疑。

## （六）课程教材

（主讲教材尽量使用“马工程”和国家规划教材，在同类教材中，优先选用国家级规划教材，凡教材选用范围中有“马工程”重点教材的，必须选用工程重点教材。）

1. 主讲教材：《神经病学》第九版，人民卫生出版社，主编 郝峻巍，罗本燕，2024-7

2. 辅助教材：

《神经病学》第四版，出版社：人民卫生出版社，主编：王伟，罗本燕，2023-8

《神经病学》第1版，出版社：高等教育出版社，主编：黄如训，2010-4

## （六）主要参考书目

（推荐若干参考书，并注明书名、作者、出版社、版本、出版日期等，每个章节指定一定数量、明确的阅读资料）

《神经病学》第四版，出版社：人民卫生出版社，主编：王伟，罗本燕，2023-8

《 Clinical Neurology》 第9版， 出版社：McGraw-Hill Education ，主编：Michael Aminoff , David Greenberg , Roger Simon， 2015-5

## （七）成绩评定方式

课程成绩由平时成绩（40%）+期末理论成绩（60%）综合评定。

注：教学大纲一律使用A4纸，正文为小四号宋体。