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PT 525.01: Clinical Medicine, Pharmacology and Exercise Prescription

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PT 525 Clinical Medicine, Pharmacology and Exercise Prescription, 4 credits
Spring 2003

Syllabus for Clinical Medicine and Pharmacology, 3 credits
Clinical Medicine and Pharmacology (75%) Exercise Prescription (25%)

Class Schedule:

Monday 2:10-3:00 SB 113 Exercise Prescription – J. Laskin

Tuesday 10:10-12:00 SB 114 Clinical Medicine and Pharmacology – S. Fehrer

Thursday 10:10-12:00 SB 114 Clinical Medicine and Pharmacology – S. Fehrer

Instructor: Dr. Steve Fehrer

SB 107, 243-2429

sfehrer@selway.umt.edu

Required Textbooks:

Goodman and Synder. Differential Diagnosis in Physical Therapy, 3rd edition. Saunders 2000. (GS)

Goodman, Boissonnault, and Fuller. Pathology Implications for the Physical Therapist. Saunders 2003. (GB)

Ciccone. Pharmacology in Rehabilitation 3rd edition. F.A. Davis 2002. (C)

The listed readings are for enhancement of student understanding and clarification of material presented in class. The course examinations will be based on material contained in the class presentations.

Grading:

Student performance evaluation will be based on two 50-point tests and a 50-point comprehensive final exam. Grade distribution: A = 90-100%, B = 80-89%, C = 70-79%, <70% requires retake of test or final exam.

Any evidence of cheating or plagiarism will result in failure of the course and possible remand to Academic Court for possible suspension or expulsion.

Schedule:

Tue 1/28 Immune – GS 390-433, GB 153-193, C 226-246

1. Review of immune physiology, aging and the immune system, exercise immunology
2. Adult and juvenile rheumatoid arthritis, pathogenesis, clinical manifestations, medical management

Thur 1/30 Immune

1. RA continued, pharmacologic agents (NSAIDs, Glucocorticoids, DMARDs), PT management
2. HIV/AIDS, clinical manifestations, medical and PT management; Chronic fatigue syndrome

- Tue 2/4 Immune
 1. Hypersensitivity disorders
 2. Autoimmune diseases, systemic lupus erythematosus, fibromyalgia
- Thur 2/6 Immune/Transplantation
 1. Scleroderma, Guillain-Barre syndrome, differential diagnosis
 2. Transplantation types, post-transplant complications, exercise
- Tue 2/11 Transplantation – GB 772-820, C 633-649.
 1. Considerations based on type, HSCT, kidney, liver, heart, lung
 2. Immunomodulatory drugs
- Thur 2/13 No class
- Tue 2/18 Oncology – GS 334-389, GB 236-263, C 610-632.
 1. Classification of neoplasm, aging, metastases
 2. Medical management, exercise management
- Thur 2/20 10:10- Noon Oncology
 1. Cancer chemotherapy
 2. PT monitoring of the client with cancer
- Thur 2/20 1:10 – 3:00 Oncology
 1. Differential diagnosis considerations for various cancers
 2. Catch up
- Tue 2/25 Integumentary – GB 264-316
 1. Skin disease, aging, common skin disorders
 2. Common skin disorders, Herpes zoster, pressure ulcers
- Thur 2/27 Test 1; Integumentary**
 1. **Test 1**
 2. Malignant neoplasms
- Tue 3/4 Integumentary; Endocrine
 1. Polymyositis and dermatomyositis, cold injuries, burns
 2. Endocrine pathology, aging, adrenal malfunction
- Thur 3/6 Endocrine – GS 287-333, GB317-366, C 433-529.
 1. Thyroid malfunction, parathyroid malfunction
 2. Diabetes Type 1 and 2, clinical manifestations
- Tue 3/11 Endocrine
 1. Medical management, pharmacological management
 2. PT management of diabetes

- Thur 3/13 Endocrine
1. Endocrine control of calcium homeostasis
2. Hormonal contraception, androgen abuse
- Tue 3/18 Lymphatic – GB 477-508
1. Lymphatic physiology, lymphedema
2. Pathogenesis, clinical manifestations
- Thur 3/20 Lymphatic
1. PT management
2. Lipedema
- 3/24-3/28 Spring Break
- Tue 4/1 Hematology – GS 181-196, GB 509-552, C 373-385, 388-391.
1. Anemia, blood transfusion
2. Neoplasm of blood cells
- Thur 4/3 Hematology
1. Thrombocytopenia, sickle cell disease, hemophilia
2. Thrombolytic drugs, antithrombotic drugs
- Tue 4/8 GI – GS 197-233, GB 628-703, C 386-388.
1. Signs/symptoms disease, hernia, GERD, peptic ulcer disease
2. Inflammatory bowel syndrome, adenocarcinoma
- Thur 4/10 Test 2; GI**
1. Test 2
2. Appendicitis, peritonitis
- Tue 4/15 GI
1. Hepatitis A B C, cholelithiasis
2. Alcoholic liver disease/cirrhosis, pancreatitis
- Thur 4/17 GI
1. Pancreatic cancer, differential diagnosis
2. GI drugs – antiemetics, control gastric acidity, treat hyperlipidemia
- Tue 4/22 Renal – GS 234-259, GB 704-728
1. Aging, urinary tract infections, chronic renal failure
2. Chronic renal failure, renal dialysis
- Thur 4/24 Renal
1. Renal calculi, urinary incontinence
2. Differential diagnosis

- Tue 4/29 Infectious disease – GB 194-235, C 537-589.
 1. Signs/symptoms of infectious diseases, MRSA, isolation
 2. Nosocomial infections, pneumococcal infections
- Thur 5/1 Infectious disease
 1. Tuberculosis, lyme disease
 2. Antibacterial/antiviral drugs
- Tue 5/4 Pharmacology – C 110-122, 142-166.
 Anti-epileptics, anesthetics
- Thur 5/6 Review: GS 434-508
 Systemic origin of musculoskeletal pain

Final exam Monday May 12 8:00-10:00

Course Objectives:

1=Knowledge

2=Application

3=Psychomotor

4=Analysis, Synthesis, and Evaluation

5=Affective

A. Clinical decision Making and Examination

- 1.1 Describe the process of hypothesis oriented algorithms within the context of the Nagi model of disability as it is used to guide physical therapy diagnosis, evaluation, and treatment.
- 1.2 Differentiate between disease and illness, signs and symptoms, acute and chronic illness.
- 1.3 Define differential diagnosis and state the role it plays in physical therapy practice.
- 1.4 Describe the sources and types of pain.
- 2.1 Recognize constitutional symptoms of systemic disease and utilize them in the completion of differential diagnosis.
- 4.1 Engage in diagnostic process to establish differential diagnosis for patients across the lifespan based on evaluation of examination results and medical and psychological information.
- 4.2 Determine the need for further examination or consultation by a physical therapist or for referral to another health care professional.

B. Interviewing the patient

- 1.1 Describe the appropriate interview process for patients receiving physical therapy.
- 4.1 Using case studies and written examination, determine the appropriate interview questions and analyze resultant information for key indicators.
- 4.2 Using case studies and written examination, determine from interview data when referral to other health care professionals is appropriate.

C. Oncology

- 1.1 Describe the common presenting symptoms of persons with the common forms of cancer.
- 1.2 Describe the underlying pathology and theoretical causes of the common forms of cancer.
- 1.3 Describe the course of progression of the common forms of cancer.
- 1.4 Describe the typical patterns of medical management for clients with cancer.
- 1.5 Describe lifestyle risk factors for the prevention of cancer.
- 1.6 Describe the various chemotherapeutic agents and radiation therapy approaches used to manage cancer.

4.1 Determine the impact of common medical management for cancer on physical therapy intervention for this client population.

4.2 Using the typical referred pain patterns to determine if a client being seen for a possible neuromusculoskeletal problem should be referred to another health care professional.

D. Immunological diseases

1.1 Describe the common signs and symptoms of persons with various immunological disease states.

1.2 Describe the epidemiology, diagnosis and prognosis for rheumatoid arthritis and osteoarthritis.

1.3 Describe the appropriate physical therapy management of these clients, considering pain reduction, deformity prevention, exercise prescription, and function preservation.

1.4 Describe the major differences between osteo- and rheumatoid arthritis.

1.5 Describe the medications commonly utilized to manage arthritis.

1.6 Describe the common forms of medical intervention for these disorders.

1.7 Describe the underlying pathology and theoretical causes.

1.8 Describe lifestyle risk factors for acquiring AIDS.

4.1 Using a case study, determine the type of immunological condition and appropriate physical therapy intervention.

E. Endocrine disorders

1.1 Describe the common signs/symptoms of persons with endocrine disorders.

1.2 Describe the common forms of medical intervention for these disorders.

1.3 Describe the underlying pathologies for diabetes mellitus.

1.4 Describe the lifestyle risk factors for the prevention of type II diabetes.

1.5 Describe the pharmacological interventions commonly used to manage diabetes.

3.1 Demonstrate how to test blood glucose.

4.1 Determine the implications of medical management on physical therapy interventions.

F. Integumentary disorders

1.1 Describe the common signs/symptoms of persons with these disorders.

1.2 Describe the common forms of medical intervention for these disorders.

2.1 Demonstrate how to monitor a client's skin to assess for presence of skin cancer.

2.2 Demonstrate how to monitor a client's skin to assess for presence of pressure ulcers.

4.1 Determine the implications of medical management on physical therapy interventions.

G. Gastrointestinal and urinary tract disorders

1.1 Describe the common signs/symptoms of persons with these disorders.

1.2 Describe the common forms of medical intervention for these disorders.

1.3 Describe the underlying pathologies for these disorders.

1.4 Describe the referred pain patterns for these disorders.

2.1 Explain how the clinician protects self from hepatitis infection.

4.1 Determine the implications of medical management on physical therapy interventions.

H. Hematology and lymphatic disorders

1.1 Describe the common signs/symptoms of persons with these disorders.

1.2 Describe the common forms of medical intervention for these disorders.

1.3 Describe the medications used to alter blood clotting.

4.1 Determine the implications of medical management on physical therapy interventions.

I. Transplantation

1.1 Describe the common transplantation procedures.

1.2 Describe the potential complications that a transplant patient may encounter.

4.1 Determine the implications of medical management on physical therapy interventions.

J. Infectious disease disorders

1.1 Describe the common signs/symptoms of persons with these disorders.

1.2 Describe the common forms of medical intervention for these disorders.

- 1.3 Describe the medications used to treat these disorders.
- 1.4 Explain role of physical therapy in the delivery of services with clients in isolation.
- 1.5 Describe the PPD test and the significance of a positive result.
- 1.6 Explain how a therapist protects him/herself from TB exposure.
- 4.1 Determine the implications of medical management on physical therapy interventions.

K. Pharmacology

- 1.1 Describe the normal mechanisms of drug absorption, distribution, metabolism and excretion for prescription and over-the-counter drugs.
- 1.2 Describe how the processes described in 1.1 are altered by disease state and age.
- 1.3 Match common drug names to appropriate drug categories.
- 1.4 Describe common side effects of drug categories, especially those affecting physical therapy interventions.
- 2.1 Explain why physical therapists cannot prescribe drugs and should not advise patients/clients to take a particular drug.
- 2.2 Demonstrate how to effectively communicate with a physician about particular medication(s) your client is taking.
- 4.1 Given a patient history, determine the effects of a drug regimen on physical therapy treatment.
- 4.2 Determine when signs/symptoms indicate the need for a referral to a pharmacist or physician.