

Index of Performance Training

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Table of contents

1	Anatomy	3
1.1	Arteries	3
1.2	Bones	3
1.3	Cartilage	3
1.4	Connective Tissue	3
1.5	Joints	3
1.6	Ligaments	3
1.7	Muscles	3
1.8	Nerves	3
2	Microbiology	3
2.1	Cells	3
2.2	Enzymes	4
2.3	Proteins	4
3	Physiology	4
3.1	Hormones	4
3.2	Inflammation	4
3.2.1	Inflammatory Cells	4
3.3	Minerals	4
3.4	Muscle Physiology	4
3.5	Neurotransmitters	4
3.6	Physiology of stress	4
3.7	Transporters	5
3.8	Vitamins	5
4	Psychosocial	5
4.1	Models of Health	5
4.2	Socioeconomics	5
4.3	Population Health Disparities	5

5	Pain Science	5
5.1	Pain Terms & Taxonomies	5
5.2	CRPS	5
5.3	Physiology of pain	6
5.4	Interventions	6
5.5	sensitization	6
6	Pediatrics	6
6.1	Theories of child development	6
7	Pathophysiology	6
8	Pathologies	6
8.1	Endocrine Pathologies	6
8.1.1	Pituitary Disorders	6
8.2	MSK Pathologies	7
8.2.1	Head	7
8.2.2	Trunk	7
9	Neuroscience	7
9.1	Neuroanatomy	7
9.1.1	Basal Ganglia	7
9.1.2	Cranial Nerves & Nuclei	8
9.1.3	Tracts	9
9.2	Neurophysiology	10
9.2.1	Neuro Symptoms	10
9.2.2	Special Senses	10
9.3	Neuropathology	10
9.3.1	PNS Pathologies	10
9.3.2	CNS Pathologies	10
10	Motor control	10
11	Genetics & Genomics	10
11.1	Genes	10
12	MSK: Musculoskeletal Therapeutics	11
13	Examination	11
13.1	Movement Analysis	11
13.2	Tests and measures	11
13.2.1	Head and neck Tests	11
13.2.2	Upper Extremity Tests	11
13.2.3	Lower Extremity Tests	11

1 Anatomy

1.1 Arteries

- [Basilar Artery](#)

1.2 Bones

[Bones](#)

1.3 Cartilage

1.4 Connective Tissue

1.5 Joints

1.6 Ligaments

[Ligaments](#)

1.7 Muscles

[OIANs](#)

1.8 Nerves

[Nerves](#)

2 Microbiology

2.1 Cells

- [CD34](#)

2.2 Enzymes

- Superoxide Dismutases group
 - Copper-Zinc Superoxide dismutase (CuZnSOD)
- Diamine Oxidase

2.3 Proteins

- Nestin protein
- Vascular endothelial growth factor (VEGF)
- Von Willebrand Factor (vWF)

3 Physiology

3.1 Hormones

3.2 Inflammation

3.2.1 Inflammatory Cells

- Macrophages
-

3.3 Minerals

Copper [Cu]

3.4 Muscle Physiology

3.5 Neurotransmitters

- Glutamate

3.6 Physiology of stress

Oxidative stress

3.7 Transporters

- [Excitatory amino acid transporter 2 \(EAAT2\)](#)

3.8 Vitamins

4 Psychosocial

4.1 Models of Health

- [Biomedical Model](#)
- [Biopsychosocial Model](#)

4.2 Socioeconomics

- Socioeconomic Determinants of health

4.3 Population Health Disparities

- Health disparities in historically marginalized populations
- Health disparities in LGBT populations

5 Pain Science

5.1 Pain Terms & Taxonomies

- [Pain \(overview\)](#)
- [Acute Pain](#)
- [Chronic Pain](#)
- [Recurrent Pain](#)
- [Cancer Pain](#)
- [Transient Pain](#)

5.2 CRPS

- [CRPS \(overview\)](#)
- [CRPS Type I \(Formerly reflex sympathetic dystrophy\)](#)
- [CRPS Type II \(formerly causalgia\)](#)

5.3 Physiology of pain

5.4 Interventions

[Graded Motor Imagery](#)

5.5 sensitization

- [Allodynia](#)
- [Analgesia](#)
- [Hyperalgesia](#)

6 Pediatrics

6.1 Theories of child development

7 Pathophysiology

- [Stress Reactions and Stress Fractures](#)

8 Pathologies

8.1 Endocrine Pathologies

8.1.1 Pituitary Disorders

8.1.1.1 Pituitary Hypofunction

8.1.1.1.1 Gonadotropin Deficiency

- [Gonadotropin Deficiency](#)
- [Kallmann Syndrome](#)

8.2 MSK Pathologies

8.2.1 Head

8.2.2 Trunk

- Rib fracture
 - Rib stress fracture
- Thoracic outlet syndrome (TOS)
- Pain
 - Chronic Low Back Pain
 - Acute Low Back Pain ### Upper Extremity ### Lower Extremity
- Adductor muscle strain

9 Neuroscience

9.1 Neuroanatomy

9.1.1 Basal Ganglia

Basal ganglia (Overview)

- Striatum (Caudate nucleus & Putamen)
- Lentiform Nucleus (Putamen + Globus pallidus)
- Caudate Nucleus
- Putamen
- Globus pallidus
- Subthalamic nucleus (ST Nuclues)
- Substantia Nigra

Basal Ganglia Nuclei Types:

- Input Nuclei
- Output Nuclei
- Intrinsic Nuclei

Basal ganglia pathways:

- Indirect pathway
- Direct Pathway
- Nigrostriatal Pathway

9.1.2 Cranial Nerves & Nuclei

Cranial Nerve Nuclei

- Somatic motor nuclei:
 - Oculomotor Nucleus
 - Trochlear Nucleus
 - Abducens Nucleus
 - Hypoglossal Nucleus
- Branchial Motor Nuclei:
 - Trigeminal Motor Nucleus
 - Facial Nucleus
 - Nucleus Ambiguus
 - Spinal Accessory Nucleus
- Parasympathetic Nuclei:
 - Edinger-Westphal Nucleus
 - Superior Salivatory Nucleus
 - Inferior Salivatory Nucleus
 - Dorsal Motor Nucleus of the Vagus

Sensory Nuclei:

- Visceral Sensory Column:
 - Rostral portion of Nucleus Solitarius
 - Caudal portion of Nucleus Solitarius
- General Somatosensory Nuclei:
 - Trigeminal Sensory nuclei
 - * Mesencephalic nucleus of CN V
 - * Main sensory nucleus of CN V
 - * Spinal Trigeminal nucleus
- Special Somatic Sensory Nuclei: Hearing & Balance
 - Cochlear Nuclei
 - Vestibular Nuclei

Cranial Nerves

- CN I Olfactory Nerve

- CN II Optic Nerve
- CN III Oculomotor Nerve
- CN IV Trochlear Nerve
- CN V Trigeminal Nerve
- CN VI Abducens Nerve
- CN VII Facial Nerve
- CN VIII Vestibulocochlear Nerve
- CN IX Glossopharyngeal Nerve
- CN X Vagus Nerve
- CN XI Accessory Nerve
- CN XII Hypoglossal Nerve

9.1.3 Tracts

9.1.3.1 Ascending Tracts

- Dorsal Column Medial Lemniscus (DCML)
 - Fasciculus Cuneatus
 - Fasciculus Gracilis
- Cuneocerebellar Tract
- Dorsal Spinocerebellar Tract
- Ventral Spinocerebellar Tract
- Spinothalamic Tract
- Trigeminothalamic Tract
- Spinoreticular Tract
- Spinomesencephalic Tract
- Spinohypothalamic Tract
- Cochlear Pathway
- Taste Pathway
- Vision Pathway

9.1.3.2 Descending Tracts

- Pyramidal Tracts
 - Lateral Corticospinal Tract (LCST)
 - Medial Corticospinal Tract (MCST)
 - Corticobulbar Tract
- Extrapyramidal tracts
 - Rubrospinal Tract

- Vestibulospinal Tract
- Tectospinal Tract
- Reticulospinal Tract

9.2 Neurophysiology

9.2.1 Neuro Symptoms

- Anosmia

9.2.2 Special Senses

- Gustation
- Olfaction

9.3 Neuropathology

9.3.1 PNS Pathologies

9.3.2 CNS Pathologies

Amyotrophic Lateral Sclerosis (ALS)

10 Motor control

- Motor control (overview)
- Motor learning
- Stages of Motor learning
- Tasks

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11 Genetics & Genomics

11.1 Genes

Superoxide dismutase 1 (SOD1)

12 MSK: Musculoskeletal Therapeutics

- Head
- Neck
- Thoracic Spine
- Lumbar spine
- SIJ
- Upper Extremity
 - Shoulder
 - Elbow
 - Wrist
 - Hand
- Lower Extremity
 - Hip
 - Knee
 - Ankle
 - Foot

13 Examination

13.1 Movement Analysis

13.2 Tests and measures

13.2.1 Head and neck Tests

Vertebrobasilar insufficiency Test (VBI)

13.2.2 Upper Extremity Tests

- ERLS (Possibly)
- Champagne Toast
- Infraspinatus muscle test

13.2.3 Lower Extremity Tests

- Fulcrum Test (Femoral stress Fx)

14 Performance Training

Surfing Techniques and strength training

Golf