

# Index of Performance Training

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# 1 Anatomy

## 1.1 Arteries

- Basilar Artery

## 1.2 Bones

Bones

## 1.3 Muscles

OIANs

## 1.4 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 Ambiguous](#)

- 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