Human Anatomy and Physiology- I

BIOL2401- **Lab Practical 3** Terminology

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| Lab 18: Joints |
| **Types** |  | Specific Joints – also know associated bones  |
|  | fibrous |  |  |  | Axial |
|  | cartilaginous |  |  |  |  | sutures |
|  | synovial |  |  |  | temporomandibular joint (TMJ) |
|  |  | types |  |  |  | intervertebral |
|  |  |  | ball & socket |  |  | sacroiliac |
|  |  |  | condyloid |  |  |  |  | pubic symphysis |
|  |  |  | Gliding/plane |  |  |  | Appendicular |
|  |  |  | hinge |  |  |  |  | shoulder (glenohumeral) |
|  |  |  | pivot |  |  |  |  |  | rotator cuff (group) |
|  |  |  | saddle |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | parts |  |  |  | elbow |
|  |  |  | joint (articular) capsule |  |  |  | hip |
|  |  |  | synovial membrane |  |  |  | ligamentum capitis |
|  |  |  | synovial (joint) cavity |  |  |  | knee (tibiofemoral) |
|  |  |  | synovial fluid |  |  |  |  | anterior cruciate ligament |
|  |  |  | articular surface |  |  |  | posterior cruciate ligament |
|  |  |  | bursae |  |   |  |  |  | fibular (lateral) collateral ligament |
|  |  |  |  |  |  |  |  |  | tibial (medial) collateral ligament |
|  |  |  |  |  |  |  |  | patellar ligament |
|  |  |  |  |  |  |  |  |  | quadriceps tendon |
|  |  |  |  |  |  |  |  |  | medial meniscus  |
|  |  |  |  |  |  | lateral meniscus |

**Know the movements associated with these joints:**

Flexion/Extension/hyperextension Rotation/circumduction

Adduction/Abduction Pronation/Supination

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| Lab 19: Skeletal Muscle Structure and physiology |
| muscle fiber | sarcomere | motor neuron | types |
|  | motor end plate |  | A-band |  |  |  | skeletal |
|  | myofibril |  | I-band |  |  |  | smooth |
|  |  | myosin |  | Z-line |  |  |  | cardiac |
|  |  | actin |  | M-line |  |  |  |

 sarcolemma

Muscle Physiology- EMG Biopac demo

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| Lab 20: Muscles of the Face, Head, and Neck |
| frontalis  | masseter | mentalis\* |
| occipitalis  | temporalis | platysma |
| epicranial aponeurosis+ | medial pterygoid | sternocleidomastoid |
| orbicularis oculi | lateral pterygoid | splenius capitus  |
| orbicularis oris | risorius\* | nasalis\*  |
| buccinator | levator labii superioris\* | scalenes\* |
| zygomaticus | depressor anguli oris\* |  |
|  | depressor labii inferioris\* |  |

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| Lab 21: Muscles of the Chest, Shoulder, and Upper Limb |
| Move Pectoral Girdle | Move Arm | Move Forearm |
|  | trapezius |  | pectoralis major  |  | biceps brachii |
|  | rhomboideus |  | teres major |  | brachialis |
|  | levator scapulae |  | latissimus dorsi |  | brachioradialis |
|  | serratus anterior  |  | deltoid |  | triceps brachii |
|  | pectoralis minor  |  |  |  | supinator |
|  |  | Rotator cuff |  | pronator teres |
| internal intercostal\* |  |  |  supraspinatus  | Move Hand |
| external intercostal\* |  |  |  subscapularis |  | flexor digitorum |
|  |  |  |  infraspinatus |  | extensor digitorum |
|  |  |  |  teres minor |  | palmaris longus |
|  |  |  |  |  | retinaculum+ |

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| Lab 22: Muscles of the Deep Back, Abdominal Wall, & Pelvic Outlet |
| erector spinae (group) | rectus abdominis |
| quadratus lumborum | external oblique |
|  | internal oblique |
| linea alba+ | transversus abdominis |

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| Lab 23: Muscels of the Hip & Lower Limb |
| Move Thigh | Move Leg | Move Foot |
|  | psoas major |  | hamstring group |  | tibialis anterior |
|  | iliacus |  |  | biceps femoris |  | gastrocnemius |
|  | gluteus maximus |  |  | semitendinosus |  | soleus |
|  | gluteus minimus  |  |  | semimembranosus |  | fibularis (peroneus) longus |
|  | piriformis |  | sartorius |  |  |
|  | tensor fasciae latae |  | quadriceps |  |  |
|  | adductor longus |  |  | rectus femoris |  | calcaneal (Achilles) tendon+ |
|  | adductor magnus |  |  | vastus lateralis |  |  |
|  | gracilis |  |  | vastus medialis |  |  |
|  |  |  |  | vastus intermedius |  |  |
|  |  |  |  |  |  |  |

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| Lab 35: The Eye (Text p. 448- 449) |
| superior rectus |  |
| inferior rectus | superior oblique |
| medial rectus | inferior oblique |
| lateral rectus |  |

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| **Muscle** | **Action** |
| orbicularis oris | close mouth |
| orbicularis oculi | close eye |
| buccinator | compress cheeks |
| masseter | elevate mandible |
| temporalis | elevate mandible |
| lateral & medial pterygoid | grinding |
| levator labii superioris | elevate upper lip |
| depressor anguli oris | depress corners of mouth |
| depressor labii inferioris | depress lower lip |
| sternocleidomastoid | rotates head, flexes neck or elevates sternum |
| scalenes | elevates ribcage |
| trapezius | rotates scapula |
| rhomboideus | elevates and adducts scapula |
| levator scapulae | elevates scapula |
| serratus anterior | pulls scapula anteriorly and downward |
| internal intercostal | retracts (depresses) ribs |
| external intercostal | protracts (elevates) ribs |
| pectoralis major | flexes, adducts and rotates arm medially |
| teres major | extension, adducts and rotates arm medially |
| latissimus dorsi | extension, adducts and rotates arm medially |
| deltoid | abducts, extend and flexes arm |
| supraspinatus | abducts arm |
| teres minor | rotates arm laterally |
| biceps brachii | flexes forearm |
| triceps brachii | extends forearm |
| supinator | supinates (laterally rotates) forearm  |
| pronator teres | pronates (medially rotates) forearm |
| palmaris longus  | flexes hand |
| extensor digitorum | extends & hyperextends digits |
| erector spinae | posture (extend vertebral column) |
| rectus abdominis | compresses abdominal region - flexes vertebral column |
| external & internal oblique | compresses abdominal region |
| transverse abdominis | compresses abdominal region |
| psoas major | flexes thigh |
| iliacus | flexes thigh |
| gluteus maximus | extends thigh |
| adductor (longus & magnus) | adducts leg |
| gracilis | adducts leg |
| hamstring group | flexes leg |
| quadriceps | extension of leg |
| sartorius | rotates leg laterally |
| tibialis anterior | dorsiflexion/inversion |
| gastrocnemius | plantar flexion |
| soleus | plantar flexion |
| fibularis longus | plantar flexion/eversion |