

# Syllabus for Foundation Certificate in Body Science

5 x 3 days. Weeks 1-3 have 3 sessions per day on A&P & 1 on palpation

Syllabus subject to ongoing amendments and improvements! Presented by College of Body Science for Upledger Institute UK. Accredited by Cranio Sacral Society for Upledger Institute UK Training.

## PART 1 - Day 1 – Introduction and the Cell & Tissues

**Introduction to basic anatomical terms and language**

**Introduction to components of each of the body systems, how they connect and work together**

**Location and gross anatomy of organs**

**The body's 'biochemical building blocks' and basic components of cells**

**Basic structure of tissues and organs**

### Palpation Component: Grounding & Therapeutic Presence

Students will be able to:

- Understand and use terms of anatomical description and begin to develop a sense of anatomical language eg explain the anatomical position, the descriptive terms used in reference to it and name the various movements the body can make;
- Name the major anatomical components and physiological function of the following systems: skeletal, muscular, cardiovascular, respiratory, integumentary, digestive, nervous, renal, reproductive, endocrine, immune; comment on the comparative positions of organs and other major structures in the body and how their location may serve their function;
- Comment on some of the basic interactions between the systems: eg the renal system filtering the blood, the nervous system controlling respiration and cardiovascular adjustments, the blood carrying hormones which affect other organs etc.
- Briefly describe the difference between atoms, molecules, compounds, organelles, cells, tissues, organs, systems;
- Briefly describe the form and use of carbohydrates, proteins, lipids, vitamins, minerals, water;
- List the major components of cells including: plasma membrane, receptors, nucleus, DNA, cytoplasm, filaments, mitochondria, endoplasmic reticulum, golgi apparatus, lysosomes and formulate an understanding of these within the framework of the jobs done by the cell as a microcosm: ingesting nutrients, receiving stimuli, responding to stimuli and excreting wastes;
- Describe the basic differences between cells of muscular, epithelial, nervous and connective tissues and understand the different functions of these cells as tissues; describe how these different types of tissue come together to form organs and larger structures;
- Describe the different ways substances move in and out of cells including passive and active diffusion, filtration, osmosis, active transport, endocytosis and exocytosis;
- Explain the basic process of mitotic cell division and make simple comparisons with meiosis;
- Explore their understanding of the meaning of grounding. Ways to do it. Why it is so important;
- What we mean by 'therapeutic presence'. Explore what can take us 'off' and how to know when that occurs. Exercises and practical exploring these concepts.

**Timing. (nb: all timings assume a 10.30-11.00 break, 12.30-1pm lunch and 3.15 – 3.45 break, 5.00 finish)**

9.00 Introductions, language & systems

11.00 Cells

1.30 Diffusions, cell division and tissues

3.45 Palpation component

## Day 2 – The Head

**Bones of cranium and face and identification of their main features**

**Joints of head – introduce types of joints: sutures, synchondroses, synovial and main features of latter**

**Muscles of head – plus introduction to concept of muscle tissue and how it works**

**TMJ – main features and muscles**

**Meninges, Ventricles, CSF and CSR, blood supply to head**

**Palpation Component: Principles of touch while light, neutral & listening and present.**

Students will be able to:

- Name and locate the bones of the head and their main features, using skull models;
- Compare the different sutures of the skull, describe the 3 different types of joints & identify the key differences between fibrous, cartilaginous and synovial joints; including the 6 types of synovial joints and their main features. Understand the function of ligaments. Show how this will thread through the rest of the course;
- Understand the basic features of muscle tissue and how cells contract. Importance of connective tissue in their make up as related to what we do. Demonstrate an awareness of the existence of cardiac and smooth muscle and where they are located (will be returned to later). Introduce a few facial muscles;
- Describe the features of the TMJ joint, the muscles that move it and why this is important in CST;
- Understand the structures & locations of the 3 layers of the meninges and why they are so important for CST. Understand the 'space' of the ventricles and the fluid that is produced there. Examine the functions of CSF, how it flows and why it is so important for CST;
- Name and locate the arteries to the brain and the structures for venous drainage. Link forward to CV system;
- Explore through discussion and practical exercises the principles of touch

### Timing.

9.00 Review

9.30 Bones of head

11.00 Joints

11.30 Muscle tissue

12.00 TMJ

1.30 Meninges, Ventricles, CSF, CSR, blood supply to head

3.45 Palpation component

## Day 3 – The Brain

**Basic structure of the nervous system: CNS, PNS and basic areas of the brain**

**Nerves – structure and function; other nervous tissue cells; neurotransmitters; receptors**

**Endocrine system generally, including hormones; functions of glands within head – hypothalamus, pituitary and pineal**

**Special senses – sight, hearing and balance (may be added in an additional webinar)**

**Blood Supply of head & drainage**

**Palpation Component: Blending, the 5gms touch, tissue response. Listening & Following.**

Students will be able to:

- Describe the major components of nervous tissue, including glial cells, neurons and the basic concept of what happens at the synapse;
- Explain the difference between interneurons, motor and sensory nerves and the major triggers of sensory perception (ie touch, temperature, pain, proprioception);
- Identify components of the peripheral nervous system including no of cranial nerves, no of spinal nerves, brachial, lumbar and sacral plexi and how and why they are formed;
- Understand the subdivisions and terms of the peripheral nervous system: including somatic and visceral, autonomic, parasympathetic and sympathetic and why the distinctions are important;
- Identify key components of the central nervous system including cerebrum (and lobes), cerebellum, brainstem: midbrain, pons and medulla; thalamus, hypothalamus, limbic system, basal ganglia and spinal cord;
- Describe the main components of and reasons for the endocrine system; differentiate the major classes of hormones and the differences in their actions;
- Compare the roles of the endocrine and nervous system in regulating body functions and consider how other systems enable and respond to this control;
- Describe and discuss the main functions of the hypothalamus, pituitary and pineal glands. Explain simply how hormones act on body cells and the feedback mechanisms that regulate their actions using pituitary hormones as examples; link forward to other glands;
- Understand the main features, functions and set up of the specialised neurons of sight, hearing and balance and supporting anatomy. Identify the information they are designed to respond to and the unique ways in which they do so;
- **Introducing the concept of blending, the 5gm touch, paired with being grounded and neutral. Observing tissue response. What we mean by listening and following and how you can take this away to practice.**

### Timing.

9.00 Review

9.30 Nerves, other cells in nervous tissue, set up of CNS/ PNS etc.

11.00 Parts of the brain

12.00 Endocrine system – general introduction, comparison with nervous system

1.30 Specific glands in head.

2.00 Special senses – sight, hearing, balance

3.45 Palpation component

## **PART 2 - Day 4 - The Neck**

**Neck – bones of neck; joints of neck, spinal column as a whole, plus blood supply**

**Hyoid and muscles, pharynx and link forward to trachea and oesophagus**

**Other neck muscles**

**Endocrine function of neck – thyroid gland**

**Palpation Component: review of main principles and approach**

**Palpating hyoid, thyroid and neck structures**

Students will be able to:

- Name and describe the function of the different parts of a vertebrae, compare to those lower down. Link back to meninges;
- Describe the different joints of the vertebral column, including the OCB, and structures that hold it in place ie 6 sets of ligaments, plus axis and atlas arrangement
- Describe the blood supply of the vertebral column relevant for our work;
- Describe the hyoid and the key structures that attach to it; build their own model;
- Describe the anatomy of the pharynx, linking to the oesophagus and trachea;
- Explore the role of the thyroid gland and link back to cells and tissues, endocrine system intro and palpation;
- Name and locate the main muscles of the external neck (see appendix for muscles that should be known);
- **Palpating the different structures within the neck including hyoid and thyroid gland. Exploration of very gentle palpation with grounding, neutral and blending.**

### **Timing.**

9.00 Review with mini 'test' from previous session

9.30 Vertebrae, ligaments, blood supply

11.00 Hyoid, including pharynx

12.00 Thyroid

1.30 External Neck muscles

**3.45 Palpation of these structures and hyoid diaphragm.**

## Day 5 – The Thorax

### Bones and muscles of thorax

### Respiratory system: anatomy and physiology

### Heart & cardiovascular system: anatomy and physiology

### Components and functions of blood; other fluids including lymphatic system

### How we carry fuel in blood, use it in cells and the waste products produced

### Palpation Component: Introduction to Diaphragms and signs of release; transverse diaphragms – diaphragm & thoracic inlet;

### Palpating structures of thorax including bones, muscle, pleura, lungs, pericardium, heart

Students will be able to:

- Identify bones and muscles of thorax, including thoracic cage, intercostals, larger muscles;
- Identify and locate the major components of the respiratory system: nose, nasal linings, pharynx, trachea, bronchi, bronchioles, alveoli, capillaries and consider the importance of aspects of their anatomy;
- Describe the mechanisms of breathing control, internal and external respiration and explain how gasses are carried in the blood;
- Describe the basic types of blood cells and the plasma components of blood; distinguish between blood, intracellular fluid, interstitial fluid and lymph;
- Identify and locate the major organs of the lymph system: route of major lymph vessels, location of main groups of nodes, tonsils, thymus, spleen;
- Identify and locate the major components of the heart and vessels: aorta and vena cava, right and left atria, right and left ventricles, bi- and tri-cuspid, pulmonary and aortic valves;
- Describe the key features of cardiac muscle and how the heartbeat is transmitted;
- Describe the basic differences between veins, arteries and lymph vessels;
- Introducing the techniques for the transverse diaphragms and identifying the signs of release;
- Transverse diaphragms - diaphragm and thoracic inlet;
- Feel respiratory & cardiac rhythm in different parts of the body; how we can switch our awareness between them;
- Feel through bones, pleura into lungs, pericardium into heart. Begin to get a sense of what structures we are connecting with.

### Timing

9.00 Review

9.30 Thorax and anatomy of respiratory system

11.00 Epithelial tissues

11.15 Physiology of respiration

11.45 Blood as connective tissue – distinguishing between fluids

12.00 Organs and function of lymph system

1.30 Anatomy of heart and blood flow through it

3.45 Palpation of thorax

## Day 6 – Shoulder and Arm

### Physiology of bone and muscle

#### More on fascia as a whole

#### Anatomy of shoulder and arm – muscles, bones, nerves, including brief brachial plexus, blood supply

#### Palpation Component: Palpation and feeling of the different muscles & bones

#### Differences between structures, including nerves and vessels; listening and following fascia

#### Diaphragms at joints

#### The energetic component of touch – direction of energy technique

Students will be able to:

- Outline the structure of bone and its remodelling process;
- Discuss some of the interesting things that have been learnt about fascia in recent years;
- Describe the anatomy of the shoulder and arm including joint arrangement, muscle support and the main nerve and blood supply. Briefly explain the brachial plexus;
- Palpate the muscles of the arm as an aid to remembering them;
- Use our principles of touch to feel fascia, muscles, bones, nerves, vessels. Practise listening and following fascia;
- Show that the diaphragm technique is valid within joints too and practice at shoulder, elbow, wrist or fingers.
- Introduce the idea of energy within touch and show them direction of energy technique with practical.

#### Timing

9.00 Review

9.30 Physiology of bone and muscle; more on fascia

11.00 Anatomy of the shoulder

1.30 Muscles and key structures of the arms and hands.

3.45 Palpation of the above as part of learning

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## **PART 3 - Day 7 – Digestive Abdomen**

**How we get 'fuel' into the body 2: digestive system**

**Organs of the digestive system, their function and basic physiology**

**How we ingest and assimilate food, use it in cells and the waste products produced**

**Anatomy of the abdomen – the peritoneum**

**Structures of the posterior abdominal wall & pelvis**

**Palpation Component: Palpating organs and peritoneum in a grounded, blended, neutral, listening and following manner**

Students will be able to:

- Describe the major forms of nutrients ingested (ie glucose, protein, fats, oxygen) and how they are utilised;
- Identify and locate the major components of the digestive system: teeth, mouth, pharynx, oesophagus, stomach, duodenum, jejunum, ileum, colon, rectum, liver, pancreas, gall bladder;
- Describe the key roles of the above structures in terms of their physiology and the adaptations of the gastrointestinal tract;
- Understand the basic function of enzymes and their role in digestion;
- Explain how food substances are carried in the blood, used by cells and where nutrients are stored if not used;
- Functionally understand the anatomy and set up of the peritoneum and how it encapsulates the various abdominal organs;
- Understand the muscles of the anterior abdominal wall and lower back;
- Understand the posterior abdominal wall and structure of the pelvis – bones, muscles, organs, blood supply;
- Use diaphragm techniques to bring in awareness of the organs, listening and following in a cranial way. Developing sense of what structures we are connecting with.

### **Timing**

9.00 Review

9.30 Overview of nutrients

10.00 Anatomy of the digestive organs

11.15 Physiology of digestion and what occurs at each stage of the tract

1.30 Peritoneum & muscles of the anterior and posterior abdominal wall; pelvis

3.45 Palpation of abdomen

## Day 8 – Posterior abdomen: Urinary & Reproductive Systems

How we remove wastes – a look at the urinary system

Comparison of urinary system with large intestine, skin and simple aspects of immunology

Endocrine actions of the adrenals

Anatomy of the male and female reproductive organs

Ovarian and menstrual cycle; spermatogenesis

Endocrine function of the reproductive system

Important aspects of conception and pregnancy

**Palpation Component: Pelvic diaphragm, recap diaphragms**

Students will be able to:

- Describe the structure and function of the major components of the renal system: kidney, nephron, urethra, bladder, ureter;
- Simply describe the action of the blood filtering system; the basic structure of the nephron, and how urine is made and excreted;
- Compare the methods of excretion and substances excreted by the kidneys, skin, large intestine and respiratory system and how this fits for the body as a whole organism. Consideration of metabolic activity. Simply describe how the cells of the immune system work to counteract and remove pathogens. Link forward to pathology section;
- Illustrate the endocrine actions of the adrenals and link back to the other endocrine glands covered previously;
- Describe the location, structure and function of the major components (organs and tracts) of the male and female reproductive system;
- Describe the ovarian and menstrual cycles and how they are inter-related; briefly outline the production and delivery of sperm;
- Define the basic roles of the hormones in this growth and development;
- Begin to develop an awareness of the process that occurs at conception and how it continues through pregnancy and also how this can be important in CST work;
- **Palpation: palpating the pelvic diaphragm, bringing in an awareness of organs; repeat with respiratory and thoracic diaphragms working towards the cranium.**

### Timing.

9.00 Review

9.30 Urinary system

11.30 Comparison of methods of excretion and substances excreted, with intro to immune system

12.00 Endocrine action of adrenals

1.30 Anatomy of the reproductive system

2.15 Male and female cycles, hormones and gamete

3.45 Palpation of these structures and pelvic diaphragm OR Conception and pregnancy, with palpation on day 9



## Day 9 – The Pelvis & Leg

**Pelvis & Leg – bones, muscles, nerves, blood supply of hip and thigh, including pelvic floor, anatomy of knee and ankle joints**

**Palpation Component: Feeling muscles and structures of lower limbs; include diaphragm at knee or ankle**

**Explore the CranioSacral Rhythm (CSR) and listening stations**

Students will be able to:

- Identify and name the bones of the pelvis & lower limb;
- Outline the structure of the pelvic floor (diaphragm);
- Identify and locate the major muscles of the lower limb and key nerve and blood supplies;
- Describe the key anatomical components of the knee joint and set up of the ankle;
- Feeling the muscles of the leg as an aid to remembering them;
- Using our principles of touch to feel fascia, muscles, bones, nerves, vessels. Practicing listening and following fascia;
- Showing that the diaphragm technique is valid within joints too and practice at knee or ankle;

### Timing

9.00 Review

9.30 Bones of pelvis and lower limb and their features

10.00 Muscles of pelvic floor & gluteal region

11.00 Muscles and key structures of the thigh

11.45 The knee

1.30 Muscles and key structures of the lower leg, ankle and feet

3.45 Palpation of the above as part of learning.

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## **PART 4 - Day 10 - Pathologies Day 1**

### **Introduction to the study of pathology and disease**

#### **The cells and processes of the immune system**

#### **Pathologies of the cardiovascular & respiratory systems**

Students will be able to:

- Describe the key ways our bodies protect us from illness, including passive and active immunities;
- Describe the main different types of illnesses that can affect us;
- Describe the bodies response to pain and the process of the inflammatory response;
- Describe the key points of the following pathologies: hypertension, hypotension, aneurysm, arteriosclerosis / arteriosclerosis, varicose veins, anaemia, haemophilia, leukaemia, thrombosis and embolus, ischemia, palpitations, oedema, congestive heart failure, angina, heart attacks, stroke, cardiac arrhythmias, pericarditis;
- Describe the key points of the following pathologies: common cold, sinusitis, pharyngitis and other respiratory tract inflammations, bronchitis, bronchial asthma, asthma, emphysema, pneumonia, tuberculosis, primary embolus, collapse of lungs, pulmonary oedema, alveolitis, respiratory failure: acidosis /alkalosis.

## **Day 11 - Pathologies Day 2**

### **Pathologies of the digestive and musculoskeletal systems**

#### **Pathologies of nervous & endocrine system**

Students will be able to:

- Describe the typical symptoms of digestive disorders and the key points of the following pathologies: hiatus hernia, gastritis / peptic ulcers, hepatitis, cirrhosis, jaundice, gallstones, pancreatitis, cystic fibrosis, Crohn's disease, Coeliac disease, appendicitis, colitis, irritable bowel syndrome, diverticulitis, haemorrhoids, peritonitis;
- Describe the key points of the following pathologies: postural deformities, herniated disc, strains and sprains, bursitis, tennis / golfers elbow, carpal tunnel syndrome, RSI, frozen shoulder, fractures, osteoarthritis, rheumatoid arthritis, gout, osteoporosis, rickets / osteomalacia, whiplash;
- Describe the key points of the following pathologies: intra-cranial bleeding, dementias including: Alzheimer's and Parkinson's disease, migraine, headache, epilepsy, multiple sclerosis, Huntington's disease, meningitis, shingles, poliomyelitis, sciatica, Bell's palsy;
- Describe the key points of the following pathologies: acromegaly, pituitary gigantism, diabetes insipidus, galactorrhea, hyperthyroidism, hypothyroidism, Cushings syndrome, Addison's disease, diabetes mellitus (type 1 and 2).

## Day 12 - Pathologies Day 3

### Pathologies of the urinary and reproductive systems & other pathologies

#### Remaining general pathologies, body wide issues, anything else not yet covered

Students will be able to:

- Describe the main different types of illnesses that can affect us: cystitis and UTIs, kidney stones, polycystic kidney disease, renal failure, hypertension;
  - Describe the key points of the following male reproductive system pathologies: inguinal hernia, prostatitis, benign prostatic hypertrophy, testicular torsion, varicocele;
  - Describe the key points of the following female reproductive system pathologies: pelvic inflammatory disease, endometriosis, fibroids, ovarian cysts, polycystic ovary syndrome, ectopic pregnancy, vaginal infections;
  - Understand the patterns and development of cancers of various parts of the body, and how the patient is affected;
  - Understand how the HIV virus affects us, what the progression the AIDS means and some of the typical diseases that are experienced;
  - Discuss any other diseases that may be relevant or of interest to students.
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## **PART 5 - Day 13**

**Participatory review of all coursework determined by student need and request.**

## **Day 14**

### **Morning Session:**

#### **AP&P exam**

**Feedback on their basic quality of palpation**

### **Afternoon Session:**

#### **'How to be a Therapist' Part 1:**

**Basics around set up & practicalities**

**Professional Requirements: Taking case histories, patient care, the legal side to be aware of, insurance, ethics, confidentiality, referral, CPD**

*(These suggestions are from a discussion between Maggie and Ann and written up by Ann. Please add any comments or suggest deletions as appropriate)*

Students will be able to:

- Describe clearly the qualities of a good therapist;
- Demonstrate awareness of patient care and the importance of the practicalities of:
  - Clean warm room / quiet/ music/ambience etc
  - Standards of personal hygiene
  - Presentable appearance/ uniform?
  - Silence all telephones
  - Place/at home/ in a clinic /access/directions
  - Timings/ how will you take case history/on telephone before/ send form to home/ add extra time to appt etc;
- Understand and be able to discuss the following professional requirements:
  - Confidentiality and sacred space/ stays in room/important when treating members of same family
  - What you learn in therapy room is not discussed outside it, even with same client unless *they* bring it up
  - Stay with client through treatment unless real emergency
  - Knowing your own limitations /you do not have to treat anyone if for any reason unsure
  - Knowing when to 'refer up' to a more experienced therapist
  - Importance of case histories and note-taking / that you may have to keep adding to case history as client remembers more through time and further visits
  - Study of CSS Code of Ethics and Practice from beginning
  - Matters around insurance – what it entails
  - Our legal obligations (this could include if you sell products or advertise)
  - Continuing Education and Training / CPD – how to keep a CPD folder from Day One

## Day 15

### 'How to be a Therapist' Part 2:

**Understand our approach to the work**

**Boundaries**

**Handling problematic situations –and knowing when to refer**

**Self development**

**Practice taking case histories, writing up notes, role play, working with clients**

Students will be able to:

- Identify the key elements of Dr John's guidance and essence of our approach to the work, including to:
    - Listen and learn
    - Be grounded, melded, blended, with neutral intention and to hold the intention without agenda
    - Form rapport, openness, allowing
    - Be present, honouring the Inner Physician respectfully
    - Let the client be your teacher
  - Have an understanding of Five Principles of Full Body Presence: (Suzanne Scurlock Durana P25)
    - Trust the existence of nurturing life energy
    - Feel the presence of this life energy in your body
    - Integrate this energy throughout your entire system
    - Expand your perceptual lens
    - Choose nourishing resources moment to moment
  - Understand the importance of boundaries:
    - Remember the power differential in the room
    - Be aware of own inner physician and client's inner physician
    - Respect client through appropriate touch, speech, attitude and approach
    - Be ready to learn from client with no diagnosis or fixing
    - Leave your own baggage outside
  - Demonstrate what we can include (or not) in closing a session, including respectfully answering questions honestly and truthfully, within the parameters of the Code of Practice, keeping to straight practical suggestions, eg use of still-point inducer may be valuable, gentle walking exercise etc.
  - Consideration of how to handle various problematic situations
    - When to 'refer up' to another therapist / one of a different gender from you if you suspect transference/counter-transference issues
    - Suggest visit to a doctor/ midwife/ community nurse if appropriate
    - Use of role play to explore specific issues
  - Discuss the various aspects of self-development and identify important areas for themselves to explore eg
    - Practice staying present and 'being with'
    - Listen and learn all you can about Dr John's approach to this (client-centred) work
    - Really embrace and understand that this therapy is different from all others. The practitioner's job is to hold the space and know the potential of the skills s/he has available, but the client's own body-heart-mind-spirit has to do the work
    - Hold the space, be present, be grounded, blended and neutral
    - Practice, practice, practice and serve your apprenticeship diligently
    - Work with your own inner physician and get to know yourself and what presses *your* buttons
    - Get treatment
    - Stay as well and healthy and balanced in your life as possible
    - Know when you are not well enough to treat others
    - Use the Study groups to full advantage
    - Know that we are all 'in the classroom' and still learning day by day so have the confidence to ASK and listen to your heart and your 'abdominal brain' and your own Inner Physician.
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## Appendix 1

### Bones students should be able to name and locate

**Cranium and facial bones:** frontal, parietal, temporal, occipital, sphenoid, ethmoid; maxilla, vomer, palatines, zygoma, lacrimal, conchae, mandible, hyoid

**Shoulder girdle and upper limb:** clavicle, scapula, humerus, ulna, radius, carpals, metacarpals, phalanges

**Vertebrae:** 7 cervical including atlas and axis, 12 thoracic, 5 lumbar, sacrum and coccyx

**Pelvis:** understand the fusion of the ilium, ischium and pubis

**Lower limb:** femur, patella, tibia, fibula, tarsals, metatarsals, phalanges

## Appendix 2

### Muscles students should be able to name and locate

**Head:** frontalis / occipitalis (epicranium)

**TMJ:** temporalis, masseter, lateral & medial pterygoid

**Neck:** sternomastoid, trapezius, levator scapulae, longus colli, sub occipitals (as group, anterior and posterior, with link from rectus capitis superior minor to dural tube), erector spinae (as group), scalenes

**Hyoid muscles:** digastric, mylohyoid, geniohyoid, stylohyoid, pharyngeals, infrahyoids,

**Shoulder:** pectoralis major and minor, subclavius, rotator cuff (4 muscles), coracobrachialis, biceps & triceps brachii,

**Arm & hand:** brachialis, brachioradialis, wrist flexors & extensors, finger flexors & extensors

**Trunk:** erector spinae, abdominals: rectus, obliques, transverse; psoas, iliopsoas, the diaphragm, quadratus lumborum, general smaller back muscles,

**Buttocks:** 3 x gluteals, hip external rotators (as group), piriformis,

**Thighs:** sartorius, TFL, hamstrings, quadriceps, adductors,

**Lower limb:** gastrocnemius, soleus, plantaris, peroneal muscles x 3, tibialis anterior and posterior, toe flexors and extensors.