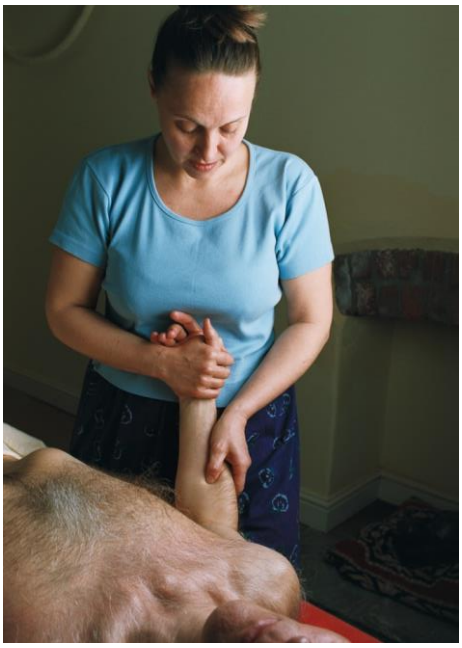
BRISTOL COLLEGE of MASSAGE and BODYWORK



BCMB MASSAGE MANUAL: WEEKEND FOUR

A weekend that sees us complete the "zones" of the body and reflect on where we have got to.

Revisiting posture & movement and using this in mobilisation work.

More linking of APP to massage skills, especially deepening our knowledge and understanding of muscles as a system.

MASSAGE PRINCIPLES

POSTURE & MOVEMENT 2

Joints Warm Up

1. Work through your body, sweeping either from head to toe or the other way. Loosen your joints in turn, with a few gentle rotations in different directions e.g. 3 shoulder rolls forward and 3 backwards. Be thorough. Include your hips, knees, ankles. Try some big circular movements to soften your whole spine. Finish by coming to your hara spotlight. Remember this is where your massage energy comes from.

Movements

2. Basic Massage Stance 1: Feet shoulder-width apart, and an easy stride forward and back. Hara and hips facing **forwards.** Shift your weight forwards and back, allowing your arms to swing easily. Transfer weight from 30/70 to 70/30 between front and back. Both feet on the ground, bending knees to allow movement. Change feet over, so your other foot is in front.

3. Basic Massage Stance 2: Repeat Stance 1, bring in a **pushing** shape with the hands as you go forwards, a **pulling** shape as you come back. Keep your arms in the same relation to your body all the time, so all the energy is coming from the transfer of weight. Experiment with **circular** movements as well.

4. Touching the Clouds. From your Basic Massage stance, practise pushing forward with one hand and pulling back with the other. We sometimes call this "Touching the Clouds".

5. Experiment with creating **circular** movements with your hands – maintain the sense of connection between your hands and your hara, as well as the shift of weight back and forth between your feet.

Visualise Massage

Imagine that there is a massage table in front of you with someone lying on it. Spend 5 minutes giving this person an imaginary massage, feeling how your energy comes from the hara spotlight. Experiment with strokes that involve: pushing; pulling; circling; sinking or a combination of motions.

MAPS – Why Do I Need to Know My Muscles?

Here are further thoughts on the muscular system. In particular, WHY do you need to know all these names? After all, isn't massage – especially the way we teach and practise it – essentially intuitive? Well, yes and no. Intuition is great but it also needs to be backed up with understanding and knowledge. Otherwise you can end up with no sense of direction and purpose, just floating around in some airy-fairy fashion. Equally, getting obsessed with technical knowledge can lead to a loss of sensitivity and personal relationship in the massage – so in BCMB we try to steer a middle way that encourages both knowledge AND intuition that can lead to creativity and innovation.

Knowing the names of muscles can give you confidence when you massage:

- Consider how much easier it is to relate to someone when you know their name. Also, when you meet them again, it is so much easier if you know what they are called – and yes, it really is fine sometimes to admit you've forgotten and to ask! The same applies with muscles.
- AND clients often say "what is that?" – if you have the muscle's name ready it will give them more confidence in you.
- Knowing the muscle's information (its name, location and action) gives you strategies for massaging it – see Massage Stroke Names on p 4.12.And you can not only massage it, be it

with light stroking, medium kneading or deep pressure, you can also stretch the muscle, because you know where it goes and the directions of fibres.
- That also translates into ideas for stretches, which you might suggest to your clients for their home care – maintaining the benefit of the massage after the session is over.

QUALITY OF TOUCH - PALPATION

If you are not certain which muscle you are on, how can you check? Well, knowing the muscle's location & action is the key. The technique here is to:

- Place one of your hands on the muscle concerned, the one that you THINK you know.
- Use your other hand – or some other part of your body if need be – to hold an appropriate other part of the client.
- Ask him/her work the muscle, GENTLY, against your resistance.
- You should feel the fibres contract/harden under your touch.

Example 1. Locating Gluteus Maximus

Place one hand on buttock, client prone.
Place other hand on ankle.
Ask client to lift straight leg from hip (ie extend leg at hip).
Feel the gluteal fibres working

Example2. Locating Mid Trapezius

Place both hands between scapulae, client prone.
Ask client to extend arms out straight (flying position).
Ask client to lift BOTH arms, still straight, a little towards ceiling.
Feel the horizontal fibres of mid trapezius contract.

Example 3. Locating rectus abdominis

Client supine, place hand on abdomen.
Ask client to place hands behind head.
Ask client to start a sit-up, head supported. Just the first couple of inches.
Feel rectus abdominis contract under your hand

The approach not only allows you to locate where you are – it also gives the client a body felt awareness of where their muscles are. Sometimes, especially if an area is tight and uncomfortable, clients "vacate" that body area. This approach puts them back in touch with it, both emotionally and physiologically. This is important in helping them to "re-member" their bodies.

The approach can be refined to more and more subtle movements, as we seek to palpate smaller muscles. Look at the Trail Guide to the Body – a veritable bible of palpation skills and one that all massage therapists should have!

Palpation Exercise

Which muscles did you explore on Sunday? If it was the shoulder girdle, your task is now to explore the pelvic girdle – and vice versa! With a client, choose 3 muscles from the area you didn't cover. For each one explore:

- Size &shape;
- directions of fibres;
- roughly where it is attached to bones.

Can you identify tight areas in the muscle? Which massage strokes might you use here and why? Write up some notes in your journal – we must see something written!

Muscles as an Integrated System

Some further thoughts on how muscles work:

- Muscles essentially act as mobilisers or stabilisers; indeed sometimes the same muscle takes on both functions at different times. E.g. stand, hold gluteus mediuson both sides and abduct one leg; you should feel it working on BOTH sides – on one side it's a mobiliser, on the other side it is a stabiliser.
- Many of us get stuck in stabilising – e.g. computer usage can lock up the shoulder girdle; too sedentary a lifestyle can lock up the pelvis.
- Consider the function of muscles – sausages in limbs are primarily concerned with movement; sheets in trunk mainly with stabilising. But not completely – e.g. latissimus dorsi stabilises the lower back but is also a prime mover of the arm. Why? Consider where it is attached. *To be precise – this is "Nice to Know" - from T7 to L5 via thoracolumbar aponeurosis & posterior iliac crest; up to the lesser tubercle of humerus – which is at the front of the body*. Hence, consider what happens when fibres shorten – adducts, extends and **medially** rotates shoulder. So, IF we can gradually build up the **"nice to know" information on attachments – origins and insertions**, it builds our understanding of the logic of muscles.
- Yes, muscles are logical. Think about why they cross joints; e.g.because psoas crosses hip joint at front, it is a hip flexor. Biceps brachii flexes arm at the elbow, hence it must cross the elbow.
- Suppose muscles weren't attached where they are – if latissimus wasn't attached to the pelvis we couldn't climb trees; if flexors/extensors weren't attached to the humerus our elbows would pop out when we lifted something!
- AND muscles overlap – e.g. gluteus maximus overlaps the hamstrings; deltoid overlaps rotator cuff and biceps; trapezius overlaps rhomboids. Generally big sheet muscles are multi-functional, deeper smaller muscles are more dedicated.
- Muscles work together as a system. Sometimes one band of muscle is named as 2, because it has a bone in the middle – e.g. serratus anterior and rhomboids, both attach to the medial border of scapula – involved with protraction and retraction of scapula – i.e. moving it around the trunk. They have an intimate relationship.
- Indeed, muscles often have difficulties when they "forget" that they act as part of a system e.g. a muscle that is tight can forget to relax when its muscular partners start to work. As massage therapists, we seek to re-educate muscles and teach them how to behave!
- Books can be misleading in showing muscles in isolation – this can be helpful in learning their names but don't forget that ALL muscles work in conjunction with other muscles.
- Other relationships – consider parallels in structure e.g. deltoid and gluteus medius; biceps brachii and hamstrings; rhomboids and external rotators of hip, especially piriformis – what others? Not exact but gives insight!
- So start to take a wider view and seek to understand HOW muscles fit together and operate as a system. This puts YOU in charge of your learning and means you will develop insight into your work.

MASSAGE TECHNIQUES

Arms (supine)

Since evolving to walk upright, our arms have been available for activities such as gathering food, warding off danger, playing sports, even massaging! Since our arms have been freed up from supporting our bodies, they've helped also us create and communicate, by reaching out or closing off. Invite liberation, at both physical and emotional levels, by helping your partner let go of their arms, the very part of the body they use for holding on.

Working supine is the best way to massage arms effectively. Some can be done prone, but supine gives you more options. Take your time as arms are often neglected in massage not receiving the attention they deserve.

Working each arm in turn:

Pay Attention To…

- Glooping the whole arm, from shoulder to wrist, make your strokes inclusive and full, creating a three dimensional sensation by taking in the sides as well as the front and back of each arm. Bring a lift to the lower arm particularly, sandwich the hand between yours, and sweep off the fingers.
- Remembering that lighter touch can go in any direction and deeper kneading touch needs to go upwards towards the shoulder, following/supporting the direction of lymph and venous return blood flow back to the heart. Keep a clear intention in mind as you vary the depth of your strokes – are you calming, are you draining, are you releasing?
- Sculpting the **deltoids**, remember the anterior, medial and posterior portions. Deltoids can often take fairly deep pressure, try knuckles or forearm on a bigger person.
- Moving your partners arm, folding it across their chest bringing their elbow in the air and their hand by their opposite shoulder. Stripping the deltoids from here is good, as is squeezing and working with the **biceps** and **triceps**.
- **Brachioradialis**.This is a fabulous muscle for massage – it's a link between the upper arm and the forearm and is often crying out for attention. Work along the length of the muscle to drain, and across the fibres and deeper into them to free up tensions.
- Lifting the forearm, letting the table support their upper arm, use interlaced thumb grip to support their hand/arm and use your other hand to drain in strips along the muscles, squeezing the fibres between your thumb and fingertips. This technique works excellently for the **wrist and finger flexors and extensors** of the forearm too.
- Keeping your body moving, even when you are doing smaller strokes – it feels better for the both of you when you are grounded, flowing and bringing your whole body to the massage.

Mobilisations Revisited

Intention
Last month, we looked at working with joint mobilisations. In class, we practised with clothes on, to get used to the more dynamic approach that this can bring. We now look at working with clients who have undressed i.e. integrating this work more into a general massage. The purpose is often to remind clients how much they can move – both the range and quality of the movements possible.

Gradual Process
1. Work draped, with oil.
2. Support the joint you wish to mobilise. It is a very good idea to use your body as a "3rd hand";softly clamp your client's arm against your hip when mobilising the shoulder, or to let the client's leg rest against your tummy or chest when mobilising the hip. The point is to provide a well grounded and secure support that your client can relax into. Get your hands into a supportive hold at the joint that you are mobilising, be that the shoulder or the hip. Don't move things "at a distance" – the joint you are focusing on needs to be held, so that you can monitor and get feedback.
3. It also means you can use your body to create movement for your clients, allowing a deeper release into the joint concerned.
4. Explore the movement that is possible at the selected joint. Small movements are good to start with, pulsing and vibrating. Move into larger movements, paying attention to any resistance/stickiness you encounter. Respect and respond to restriction, adapting the movements to accommodate your partner's mobility. Don't be too predictable!
5. Use your body to sink, push, pull, circle and open the joint concerned.
6. Return your partner to a resting position taking care to place any limbs carefully back onto the table.

Working Prone

Pay Attention To…

- **Shoulders:** Standing at the side of the table, lift your partner's arm up and use the "soft clamp" position to secure their arm between your hip and your elbow. Bring your hands to the shoulder, creating a shoulder sandwich. Use pushing, pulling and circling to open the shoulder – add in a stretch when it feels right e.g.:

    - With a pulling movement, stretch the rhomboids with a hand on the medial edge of the scapula;
    - Moving toward the head of the table, rotate their arm forward into a "Superman" position, lean your bodyweight back to create a stretch, extended by a glorious pushing and pulling stroke along the side of the body.

Working Supine

Pay Attention To…

- **Hips:** Holding under your partner's knee and cupping their heel into the palm of your hand, lift and bend their leg. Bring their knee onto your chest, and wrap you arm around the bent leg to cuddle it into your body. Place a hand at the greater trochanter to support and get feedback. Use sinking, pushing, pulling and circling to investigate how well the hip can move, including stretches e.g. push knee to client's chest to stretch gluteus maximus.

- **DRAPING!** Make sure you effectively drape your partner if they are unclothed. Once you've lifted their leg, bring the drape under their leg and up the outer side of their body. Tuck it under their lower back creating a "nappy" effect, or invite them to hold the end of the drape for their own security. If need be, adjust as you move the client's hips – this will make him/her feel secure.

- **Shoulders:** Standing at the side of the table, facing your partner, "soft clamp" their arm between your hip and elbow, sandwich their shoulder between your hands and bring movement to their shoulder, using sinking pushing, pulling and circling.Supporting the elbow and shoulder, move your body to the head of the table, rotating and lifting the arm over the head as you go. Lean your weight back to create a stretch. Amplify it with glorious strokes up and down the side of the torso – **"Flying Angel with One Wing"!**

- **Wrists, Hands & Fingers:** As before,stand at the side of the table, facing your partner, using the table to support their upper arm, lift the forearm to give you 3D access to their hand, wrist and fingers. Remember to use your whole body – almost exaggerate bending your knees, sinking, pushing, pulling, circling.

  Explore each finger in turn, rotating, flexing and extending. Explore each intercarpal and carpo-phalangeal joint with your fingers; holding either side of the hand, you can bring pressure to both sides as in "breaking bread" and play with rhythm as you alternate pressure from side to side, creating more movement within the joints.

- **Ankles & Feet:** Cupping their heel in the palm of one hand, with your other hand on the top of the foot, you can dorsi and plantar flex, invert and evert the foot at the ankle. Moving down to the foot itself, as with the hand, explore the movement of each toe, and of the tarsals and metatarsals. Again, sink your weight, bend you knees, use pushing, pulling and circling movements. Notice where the movement travels in your partner's body – this might give you clues on other areas needing to be massaged.

Neck & Head

These notes build on previous ones from Weekend Two, bringing more movements of the neck, and bringing muscular awareness to your work.

Pay Attention To…

- Sweeping across the upper chest below the clavicle, out and around the acromion process, bringing your hands together again underneath their neck and sweeping up under the head. This takes in **upper trapezius**, so pay good attention to the stroke right up into the occipital ridge.

- Passive movements of "Yes / No / Maybe"
  Yes = flexion of the neck (like nodding the head).
  No = lateral rotation of the neck (like shaking the head).
  Maybe = lateral flexion of the neck (head on one side).
  Get clear in your own head which movement you are doing, Yes, No or Maybe.
  In each case, support the head well and be confident.

  Yes: Lift the head up a bit, and slip one arm in underneath bringing your hand to their opposite shoulder. Use your forearm to lift their head bring their chin to chest. Slip the other arm in diagonally like the first one, and use both forearms to bring more lift if needed.

  No: Lift their head a little and turn it gently but firmly so that their ear comes down towards the table, nose to the side of the room, and sternocleidomastoid and scalenes towards the ceiling. Rest their head on the table and sweep up the side of the neck from shoulder to occiput, and back again. Use the flat of your hand or your knuckles (loose soft fist). Anchor their head with one hand and gently push their shoulder towards their feet with the other hand to bring a stretch. Get feedback. Use the same hand position but push their shoulder into the table for a slightly different stretch opening the front of the shoulder more. Return their head to the original neutral position of eyes to the ceiling, pause, and repeat to the other side.

  Maybe: Lift their head a little, and move their ear towards their shoulder, keeping eyes and nose facing the ceiling. Again, sweep up the side of the neck from shoulder to occiput, and/or the other direction. Create a gentle stretch by anchoring their head in place with one hand and using the other to gently push the shoulder away towards the edge of the table. Do it slowly to allow time for a stretch to develop and be felt. Ask for feedback. Carefully and confidently bring their head back to the neutral, central position and repeat the process on the other side.

  - Occipital holds. Sweep your hands underneath their neck and bring your fingertips to the occipital ridge and the occipitalis muscle. Let the weight of their head fall onto your hands, and let the table support your hands. Drop your elbows down to lever your fingertips up into the ridge. Pause. Soften. Breathe. Hang out for a while. Could be minutes. Lean your weight back to bring traction into the spine. Use your bodyweight not your strength.

  - Massaging the scalp – experiment with the difference between these two circling techniques, a) sinking your fingers into the scalp and moving the scalp over the cranium by moving your body, and b) 'shampooing' the head with a lighter tough so your fingertips travel over the scalp as you move. Some gentle hair pulling by gathering a loose handful of hair close to the head, and then leaning your weight back stimulates the scalp too.

Massage Stroke Names – also refer to Handbook p.20-22

Now, our main emphasis has been to encourage you to get hands on and become confident with touch. In the first weekend, we named some strokes. This is a reminder of these, as a review session – and so that you can write your Massage Essay!

But before that, its worth thinking a little about what massage does to the body. Recent research suggests it is truly profound, actually affecting our DNA. The findings were that post exercise massage lead to the suppression of genes that are responsible for inflammation and the activation of genes that help the repair of muscle tissue. Our understanding of these matters is increasing all the time – it is our contention at BCMB, borne out by experience, that all tissues in the body respond to touch. This is the orientation of the whole course. As we move to a more systemic approach, it is good continually to consider how our touch interacts with different tissues and systems, be it skin, fascia, muscle, bone, blood, lymph, digestion, respiration. As we develop our understanding so our touch becomes more skilful, we can use it with greater awareness and our clients' bodies will respond!

Specifically this w/e we are thinking more about massage's home tissue – muscle.Remember there are essentially 2 types of skeletal muscle. There are "sausages" in limbs and "sheets" in trunk. Different massage strokes fit different types of muscle, depending on where they are, what their shape and size is. In essence, there are 3 things we can do with skeletal muscles. We can work **across** muscle fibres to loosen them up & dislodge lactic acid; **along** fibres to milk out the waste, or we can press **into** muscles to free deep tension – so we can work across, along and into muscle fibres. How these work physiologically will become clearer as the course progresses.

What kinds of stroke can we perform?

When we massage, we can: **hold, stroke, squeeze, press, tap and vibrate**.

Classical **Swedish** massage names for these are:

- **Holds;**
- **Effleurage**– essentially any stroking movement with the whole hand;
- **Petrissage**– kneading movements that involve getting hold of tissues and moving them around; **compression**– sustained pressure into tissues;
- **Percussion -** often there are different definitions of percussion including tapotement (fingertips), hacking (side of hand), cupping (hands making a cup-shape), pummelling (loose fists); and
- **Vibration –** can be of tissue, moving layers of skin and muscle or of joints.
- Different strokes work well on different types of muscle – e.g. trapezius and latissimus dorsi like effleurage, or petrissage on meaty bits; biceps like compression, petrissage and effleurage; percussion affects superficial tissue of specific muscular knots e.g. rhomboids; vibration good on gastrocnemius.

Some strokes can be developed as **composites** e.g. "compressing effleurage"; "vibrating holds"; friction = moving compression; brushing = light effleurage; knuckling = a version of petrissge etc. etc.

Other names to play with: friction, holding, plucking, stripping, stretching, brushing, feathering, squeezing, knuckling, compression, mobilising, flicking, pummelling.

AND at the end of the day, it's the quality of what you do that matters, not the name of the strokes!

Here are the remaining muscles to learn….

MUSCLES OF THE UPPER AND LOWER ARM

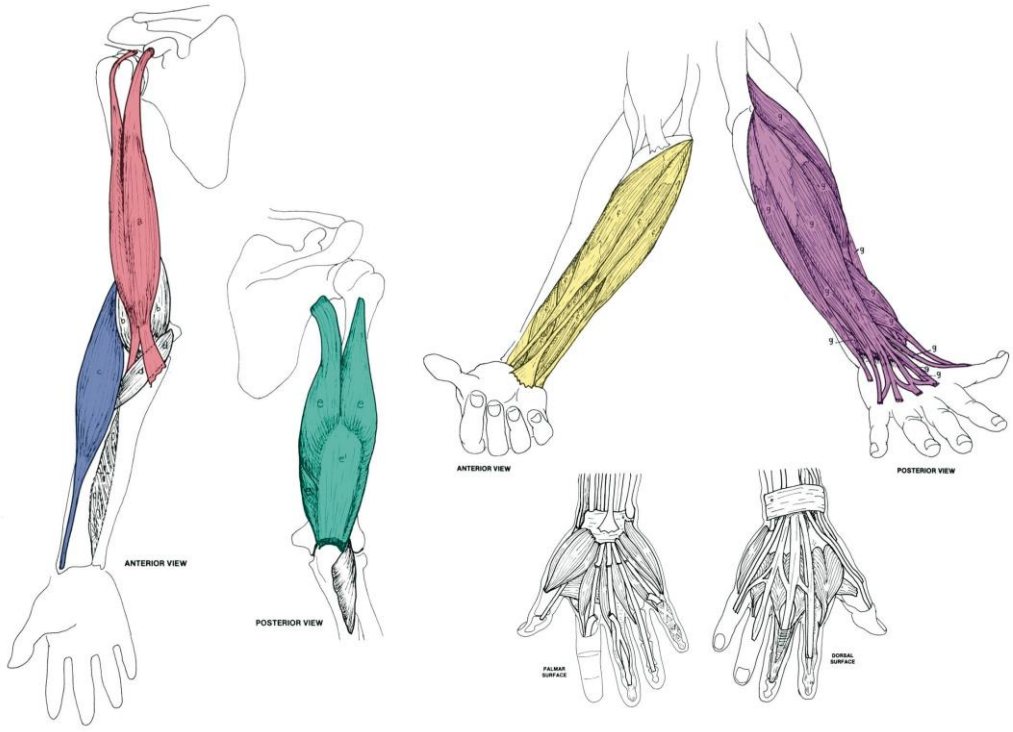
BICEPS

TRICEPS

BRACHIO-RADIALIS

WRIST AND FINGER FLEXORS

WRIST AND FINGER EXTENSORS



Name	Action	Attachments	Notes
Need to Know		**Nice to Know**	
Biceps brachii	Flexes arm at elbow; also supinates forearm	Scapula –coracoid & area above shoulder joint; radius & fascia	"Bi-ceps" = 2 heads. Strictly is biceps brachii (in arm)
Triceps	Extends arm at elbow	2heads on humerus, 3rd on scapula (just below joint; ulna	"Tri-ceps" = 3 heads. Is triceps brachii.
Brachio-radialis	Flexes arm at elbow; assists pronation & supination	Humerus, lateral shaft; radius, distal end	Turning a corkscrew, lifting a beer!
Wrist & finger flexors	Flex wrist & fingers (!)	Humerus; carpals, metacarpals & phalanges	Musical instruments, pulling a rope, wielding a hammer
Wrist & finger extensors	Extend wrist & fingers (!)	Humerus; metacarpals, phalanges	Letting go of objects; typing; kneading

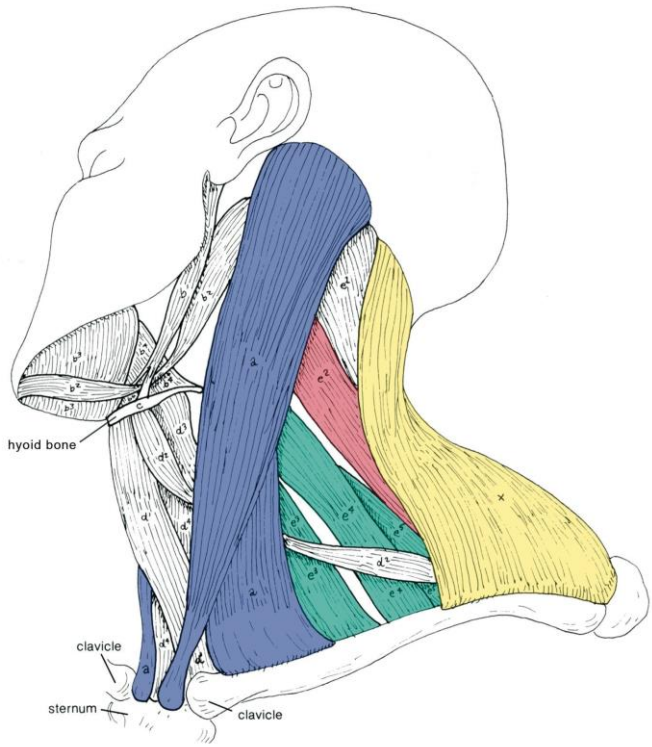
MUSCLES OF THE NECK

LEVATOR SCAPULAE

SCALENES

STERNO-CLEIDO-MASTOID

TRAPEZIUS



Need to Know		Nice to Know	
Trapezius (revision)	Extends head, elevates and retracts scapula	Occiput & thoracic vertebrae; clavicle & scapula	Extends head when both sides work at once
Levator Scapula (revision)	Elevates scapula	C1-4; scapula	Often tight (tension & posture)
Scalenes	Laterally flex & rotate head	Cervical vertebrae (Transverse Processes); 1st & 2nd ribs	Inspiration (breathing in); can press on brachial plexus
Sterno-cleido-mastoid	Flexes head when both contract; rotation of neck	Sternum & clavicle; mastoid process (on temporal bone)	Looking over shoulder; whiplash; headaches

A SUMMARY OF ALL THE NEED TO KNOW MUSCLES!!	
Name	**Action**
BACK & PELVIS	
Latissimus Dorsi	Extends, adducts and medially rotates humerus.
Quadratus Lumborum	Extends & laterally flexes trunk
Erector Spinae	Extend trunk when both sides contract (laterally flex trunk when one side contracts).
Piriformis	Laterally rotates leg
BUTTOCKS & LEGS	
Gluteus Maximus	Extends & laterally rotates femur
Gluteus Medius	Abducts & medially rotates femur
Tensor Fascia Latae	Flexes, abducts & medially rotates hip
Iliopsoas	Hip Flexor, also flexes trunk
Adductors	Adduct femur
Hamstrings	Flex leg at knee, assist hip extension
Quadriceps	Extend knee, flex hip
Sartorius	Flexes knee & hip, laterally rotates femur
Iliotibial Band (ITB)	Stabilises knee & hip
Gastrocnemius	Plantar flexion, knee extended
Soleus	Plantar flexion, knee flexed
Tibialis Anterior	Dorsiflexion & inversion
Peroneals	Eversion & plantar flexion
CHEST & ABDOMEN	
External Intercostals	Lift ribs
Internal intercostals	Lower ribs
Diaphragm	Lower base of lungs
Iliopsoas	Hip Flexor, also flexes trunk
Rectus abdominis	Flexes trunk
External oblique	Flexes & twists trunk
Internal oblique	Flexes & twists trunk
Transverse abdominis	Compresses abdomen
External Intercostals	Lift ribs

Name	Action
UPPER BACK & SHOULDERS: PRIME MOVERS OF ARM (from trunk to humerus)	
Pectoralis Major	Flex, adduct & medially rotate humerus
Latissimus Dorsi (again)	Extends, adducts and medially rotates humerus.
UPPER BACK & SHOULDERS: PRIME MOVERS OF ARM (from scapula to humerus)	
Teres Major	Adducts & medially rotates humerus
Deltoid	Flexes, extends & abducts humerus
UPPER BACK & SHOULDERS: SCAPULA STABILISATION (from trunk to scapula)	
Trapezuis	Extends head, elevates and retracts scapula
Levator Scapula	Elevates scapula
Rhomboids	Retraction of scapula
Serratus Anterior	Protracts scapula
Pectoralis minor	Depress & protract scapula
UPPER BACK & SHOULDERS: ROTATOR CUFF or SITS (from scapula to humerus)	
Subscapularis	Medial rotation of arm
Teres Minor	Lateral rotation of arm
Infraspinatus	Lateral rotation of arm
Supraspinatus	Abduction of arm
FACE	
Temporalis	Mastication (chewing)
Masseters	Mastication
Occipito-frontalis	Raises eyebrows, wrinkles forehead, moves scalp
Orbicularis oculi	Closes eye
Orbicularis oris	Closes mouth
ARMS	
Biceps brachii	Flexes arm at elbow; also supinates forearm
Triceps	Extends arm at elbow
Brachio-radialis	Flexes arm at elbow; assists pronation & supination
Wrist & finger flexors	Flex wrist & fingers (!)
Wrist & finger extensors	Extend wrist & fingers (!)
NECK	
Scalenes	Laterally flex & rotate head
Sterno-cleido-mastoid	Flexes head when both contract; rotation of neck

Getting to Know my Muscles

NAME	***WHERE IS IT? (& where does it attach?)***	***WHAT DOES IT DO? (what's the action?)***	***DO THE ACTION! (can you feel it?)***
Quadriceps	Front of the thigh. Attaches to ASIS and upper femur And goes via patella ligament to upper anterior part of tibia	Extends leg at knee and flexes leg at hip	Yes! Standing up from sitting (extending knee), or lifting knee up to take a step forward (flexing hip)
trapezius	Upper back & shoulder. Attaches to C1-T12; and to clavicle and scapula.	3 sections: Upper – elevates scapula & extends head Middle – retracts scapula Lower – depresses scapula	Yes! Hunching shoulders – on the phone? Bracing shoulders back – soldier on parade? Worn out & depressed?!

MUSCLES SUMMARY – STRUCTURE & FUNCTION

SKELETAL MUSCLE STRUCTURE

Muscle Belly – where contraction happens

- Long Cells or Fibres – able to contract
- Myofibril – within fibres called actin & myosin. These are protein myofilaments
- Each cell is divided into sarcomeres by 'z lines'
- As myosin molecules 'walk' along the actin filaments the Z lines are drawn together and the sarcomere and fibre contract

Tendon – where muscle joins onto bone

- Made of collagen fibres, extended fascia from surrounding bundles – dense, regular connective tissue
- Strong, inelastic – it's the muscle fibres that stretch and contract
- Origin – tendon joins on to bone that doesn't move
- Insertion – tendon joins on to bone that does move

Aponeurosis – joins flat muscle to bone

- Broad, flat tendon, found on trunk attaching sheets of muscle to bone

Fascia – connective tissue, cling film like wrapping

- Dense irregular connective tissue
- Around muscle cells, around muscle bundles, around muscle bellies (the myofascia)
- Extends into tendons

FUNCTIONS OF MUSCLES

- Creates Movement – makes bones move
- Maintains posture – keeps bones in place, work together in groups and chains
- Help with movement of substances around the body – squeezing, pulsing
- Generates Heat **–** necessary for body functions

Agonist/Antagonist model:

- Agonist – creates the movement
- Antagonist – controls or opposes the movement
- Synergist – helps the agonist to make the movement
- Fixator – stabilises the adjacent parts

MUSCLE ENERGY

- **ATP –** (adenosine triphosphate) is the main energy source in metabolic reactions – used in muscles for contraction
- **Mitochondria** - found in abundance in muscle cells, where the need for energy is great, they are more abundant in red fibres than white fibres

Aerobic Respiration – meanswith oxygen

- Burns glucose (transported by blood from digestive tract or liver) or fatty acids (from body fat stores) with oxygen (from lungs via bloodstream) to produce ATP (lots of energy), carbon dioxide & water are produced as waste products
- CO_2 and water are easily transportable out of the muscle through the bloodstream

Glucose/fatty acids + 0_2 >> ATP + CO_2 + water

- Red muscle fibres are best designed for aerobic functioning
- long periods of activity can be sustained

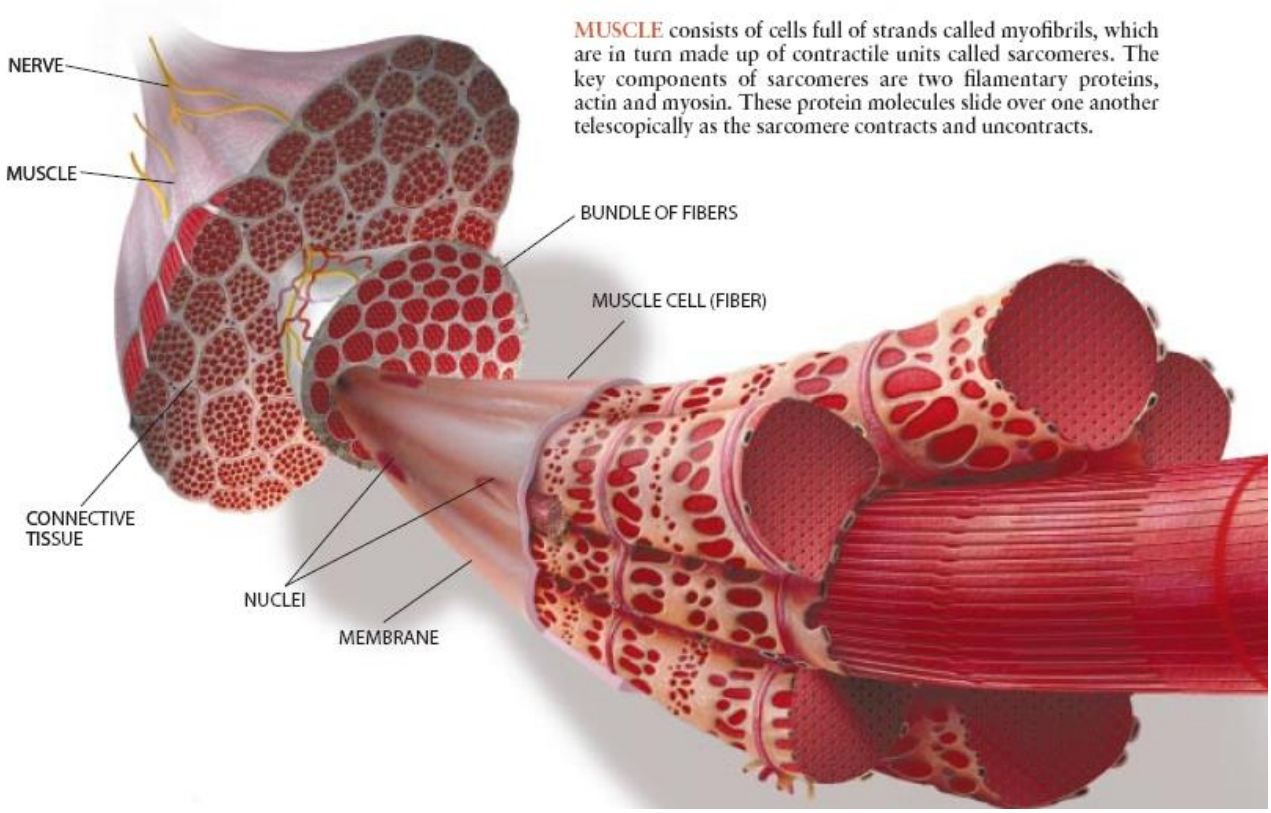
Anaerobic respiration – means without oxygen

- Burns glucose (from small store in muscle) without oxygen to produce ATP (small amount of energy) with lactic acid produced as a by-product.

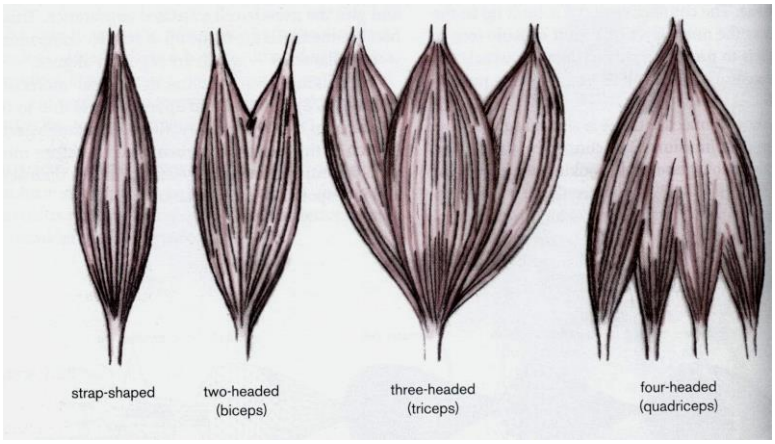
Glucose >> ATP + Lactic Acid

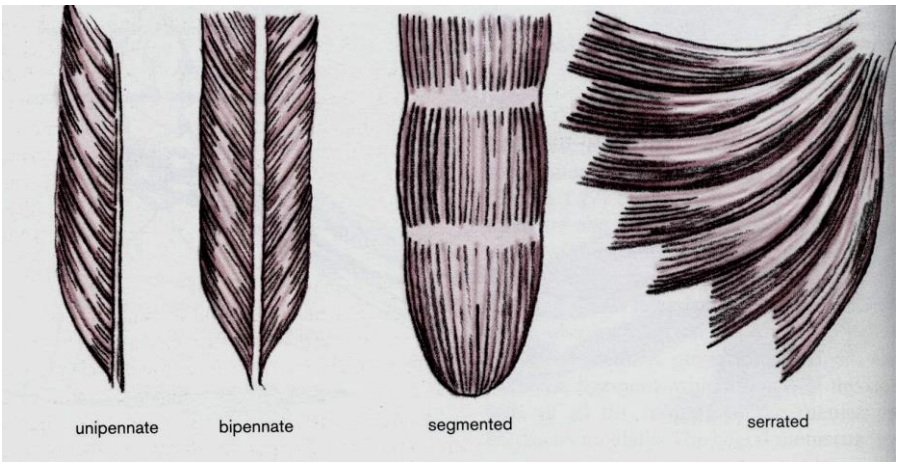
- The lactic acid is transported to the liver for reconverting to glucose
- Can sustain maximal muscle functioning for 30 to 40 seconds
- White fibres are best suited to anaerobic functioning

Structure of a muscle



Muscle Shapes





CO-OPERATING MUSCLE GROUPS

agonists
These muscles cause the movement to occur. They create the normal range of movement in a joint by contracting. Agonists are also referred to as prime movers since they are the muscles that are primarily responsible for generating the movement.

antagonists
These muscles act in opposition to the movement generated by the agonists, and while the agonist contracts they relax and lengthen. They are responsible for returning a limb to its initial position.

synergists
Smaller or neighbouring muscles may also assist the agonist during a particular movement. The smaller muscle is called the ***synergist***. An example of a synergist would be the deltoid (shoulder) muscle during a press-up. The front of the deltoid provides additional force during the press-up, however, most of the force is applied by Pectoralis Major.
Synergists are sometimes referred to as neutralisers because they help cancel out, or neutralise, extra motion from the agonists to make sure that the force generated works within the desired plane of motion.

fixators
These muscles provide the necessary support to assist in holding the rest of the body in place while the movement occurs. Fixators are also sometimes called stabilisers.

As an example, when you flex your knee, your hamstring contracts, and, to some extent, so does your gastrocnemius (calf) and lower buttocks (gluteals). Meanwhile, your quadriceps are inhibited (relaxed and lengthened somewhat) so as not to resist the flexion. In this example, the hamstring serves as the agonist, or prime mover; the quadriceps serves as the antagonist; and the calf and lower buttocks serve as the synergists. Agonists and antagonists are usually located on opposite sides of the affected joint (like your hamstrings and quadriceps, or your triceps and biceps), while synergists are usually located on the same side of the joint near the agonists. Larger muscles often call upon their smaller neighbours to function as synergists.

MUSCULAR SYSTEM PATHOLOGY

Muscle Tension

- Is very common, it means the muscle is being contracted beyond the needs of the present situation, for example hunching the shoulders while using the computer. It is often due to faulty postural habits, which may be completely unconscious. It causes pain due to the build-up of Lactic Acid, and fatigue due to the consumption of nutrients in the contracting fibres. Massage is a superb treatment, which can transform stiff, sore muscles and bring awareness to the posture.

Muscle Fatigue

- Muscle fatigue occurs when demand for ATP outstrips ability to produce it – there is insufficient oxygen available and/or depletion of glycogen, for respiration to occur aerobically. Anaerobic functioning produces lactic acid, and the muscle is unable to maintain its strength of contraction or tension
- Massage speeds up the removal of lactic acid, and increases the supply of oxygen and glucose/fatty acids by increasing circulation

Cramp – Muscle Spasm

- Is a painful involuntary contraction of the muscle, which is very painful. Can be due to overuse, poor blood supply and therefore lack of oxygen or imbalance of nutrients, dehydration, or as a response to injury. Regular massage and passive stretching is very helpful and can be preventative.

Muscle Strain

- Is tearing of a few or many muscle fibres, usually as a result of trauma e.g. sports injury, impact or twisting, or overstretching. It is a local contraindication in the acute stage immediately after injury as this may cause further tissue damage, pain and inflammation, but massage of surrounding or compensating areas is very helpful.
- Severe strains require medical attention and specialist treatment; massage of mild strains may be beneficial after 48 hours to improve circulation and reduce associated muscle contraction, draining towards heart away from swelling when sub-acute; after healing may help to stretch scar tissue and reduce residual stiffness

Muscular Dystrophy

- Is an inherited, neuromuscular, degenerative disease, which causes weakness and progressive wasting of the muscles. There is no loss of sensation so gentle massage and passive joint movements may help to relieve pain and stiffness.

Tendinopathy

- Damage to tendons or surrounding tissues
- Pain, stiffness, swelling
- In acute stage (up to 48 hrs) lymph drainage away from area
- Post acute – massage can help repair of tissues

RSI

- Any chronic, painful and debilitating overuse condition
- If inflamed then locally contraindicated in acute phase
- Massage surrounding and compensating muscles for paint relief
- Look for other conditions like tendinitis; restoring range of movement in long term

Fibromyalgia

- Idiopathic, varying symptoms including fatigue, sleep and digestive disorders, muscle weakness and pain
- Tailor to client's rhythm and needs; gentle relaxing massage, taking care not to over-treat

EFFECTS OF MASSAGE ON MUSCLES

- Increases suppleness, relieves tightness and stiffness
- Increases flexibility, muscle and fascia to normal length
- Reduces soreness, removes waste and brings nutrients
- Muscle tone improved, nerves stimulated

Massage is highly effective on all systems of the body – we will discover much more about these are the course progresses.

* * * * * * * * * * * * * *

EXPENDITURE - Part 2

Example Ongoing Costs
You spend this every year. Each column is for an example for a different type of practice.

	Own Space	**Renting a room**	**Clinic** (clients provided)	**Mobile Therapist**
Heating/Cleaning/Maintenance	£250	£0	£0	£500
Room Rent e.g. £9/hr. for 10hrs / week	£0	£4,680	£0	£0
Travel – car or bicycle mileage, bus,etc.	£0	£200	£200	£1500
Ongoing Administration (phone, bank account & accountant)	£600	£600	£0	£600
Professional Requirements (MTI, CNHC membership & insurance)	£180	£180	£180	£180
CPD (requirement of MTI) Supervision & Training Course	£500	£500	£500	£500
Consumables (gloop, couch roll etc.)	£120	£120	£0	£120
Ongoing Marketing	£300	£300	£0	£300
20% of income to save for Tax	£2,628	£2,628	£0	£2,628
Total	***£4,578***	***£9,208***	***£880***	***£6,328***

Your Ongoing Costs
You spend this every year

Heating/Cleaning/Maintenance	
Room Rent - e.g. £9/hr. for 10hrs / week	
Travel – commuting, mileage etc.	
Ongoing Administration - (phone, bank account & accountant)	
Professional Requirements (MTI, CNHC membership & insurance)	
CPD (requirement of MTI) - Supervision & Training Course	
Consumables (gloop, couch roll etc.)	
Ongoing Marketing	
20% of income to save for Tax	
Total	

Items to consider:

Items to consider budgeting ongoing costs – this list aims to give you ideas of what to consider when budgeting but also, to remember to include as expenses when you do your tax return (more on that later in the course)!

- **Ongoing Administration costs:** % of phone bill, accountancy fees, bank fees, room hire, etc.
- **Professional Requirements:** MTI Membership, CNHC Membership, Insurance.
- **Consumables:** Couch roll, face favours, gloop/oil.
- **CPD:** Supervision, workshops, journals/publications.

- **Ongoing marketing:** regularly monthly adverts etc

N.B. The following are **not** ongoing costs. They are set-up costs so were covered last time:

- **Furniture:** Massage Table, Chairs, tables, clock, water glasses and jug, wastepaper bin, decorations, cleaning equipment, first aid kit, heater, cushions.
- **Linens & Supports:** Sheets, drapes, towels, ankle bolster, cushions, couch cover etc.
- **Administration:** Phone, computer, printer, lockable filing cabinet (essential if keeping any client notes in hardcopy), diary, pens, paper, music player etc.
- **Personal Requirements:** Clothes, PPE, nail clippers, soap.
- **Marketing:** Artwork, business cards, leaflets, gift vouchers, adverts (online and in print).

PROFIT
(Profit = Income minus Expenditure)

In the first year you make less profit, as you need to deduct the set up and ongoing costs from the income. The second year you make a larger profit.

Example Profit

	Own Space	**Renting a room**	**Clinic** (clients provided)	**Mobile Therapist**
Year 1 (After set up costs + running costs)	£6,682	£2,552	£7,840	£5,332
Year 2 (After just running costs)	£8,112	£3,482	£7,920	£6,362

Please note: *Income from working at clinic looks a lot higher, but this is massaging 25hrs per week for a year, whereas the other options lead to a maximum of 10hrs massage per week towards the end of the year.*

Your Estimated Profit
(Income – Expenditure = Profit)

Year 1 (After setup costs + Running costs taken off of income)	
Year 2 (After just running costs taken off of income)	

You may choose to go back and adjust your business plan in light of the profit it would generate relative to how much money you require for a good work/life balance.

HOMEWORK

1. JOURNAL – all exercises need some record in your journal!

Reflective Practice. Personal feedback on the weekend - the useful, not so useful etc. Add to your journal any other reflections, thoughts and insights that come to you during the month.

Posture & Movement 2 – Exercise on p. 4.2

Quality of Touch – Palpation. Notes & exercise on p. 4.3

3. BUSINESS PLANNING & PRACTICE MANAGEMENT

You have now estimated income and set-up costs so now we look at ongoing costs and profit.

Expenditure Part 2 - Ongoing Costs
This month you will estimate your ongoing costs and then calculate your estimated profit.

- Complete the blank Ongoing Costs table on p. 4.20 of the Manual, using the information on p. 4.20 & 4.21 to help you. It's approximate estimates at this stage to help you start thinking about these things - so just make an informed guess at what you will need!!
- Calculate your profit using the information on p. 4.21of the Manual and enter it in the blank table on that page.

N.B To be added to your milestone section!

2. MASSAGE PRACTICE DIARY

(i) Complete a further 2 hours practice per week by the next workshop. Write them up and include reflections on what you might do differently in future sessions, e.g. the relaxing work did seem to help a but next time I might try doing longer holds to see if they relax even further.
Include work on the neck and arms for at least 2 sessions, as well as further mobilization work.

(ii) Part2: The Benefits of Massage. See sample on p 60 of Handbook

This Is Part2 of your 1st Milestone Assignment
– i.e. it is essential for the completion of your folder of work.

1. Describe why the different body areas benefit from massage – think physical / psychological / energetic. See the "Intention" sections of the Massage Notes in your Manual chapters; also the New Book of Massage & your personal experience!

E.g. "Leg massage can help clients feel grounded and stable. Medium depth work is often on thighs and calves can help reduce lower back pain and tenderness."

E.g. "Chest massage can help respiratory issues such as asthma and postural difficulties such as rounded shoulders from computer usage. Also, safe, trusted touch can allow physical and emotional opening, relaxation and liberation. Conversely, clumsy insensitive work can be threatening, so being mindful, seeking permission and feedback are essential."

NB: We will email the essay deadline to you; please upload, email or post it to us by then.

Massage References

Below is some reading for this month. We've now been all round the body! Continue to follow your interests; to browse and experiment; to play a little and enjoy your massage!

Course Handbook	p. 12-17	Holistic Massage – What is it? How to do it?
	p. 20-22	Massage Strokes - Terminology
	p. 24-28	Dynamic Bodyuse in Massage
	p. 58-60	Sample Extended Write up
Massage Manual	p. 4.9	Strokes
	p. 4.5-4.8	Arms , Neck & Head
	p. 4.4	Muscles as an Integrated system

3. ANATOMY, PHYSIOLOGY AND PATHOLOGY

References / reading:

Anatomy & Physiology	p. 161-169, 236-252	Muscles (Structure & Function)
	p. 262-269	Muscles (Pathology)
	(p. 98-128	The Skeletal System)

Manual p. 4.10-4.17 Muscle Diagrams, Summary, Structure Function & Pathology

Colour in the attached muscle charts at pages 4.23-4.24. For help see p. 4.10-4.11

Complete the AP&P questions on page 4.25. See Manual p. 4.14-4.19. There are also guidelines on page 4.26 on how to answer these questions – pay attention to these; it is wise to get into good habits now.

Make sure you know your muscles – see the "Need to Know" Summary on Manual p. 4.13. We will test you again at random intervals!

*** NB: Please upload your AP&P answers by the deadline**

REMEMBER:
WORKSHOP 5 starts on a FRIDAY!
~ 10.00am START ~

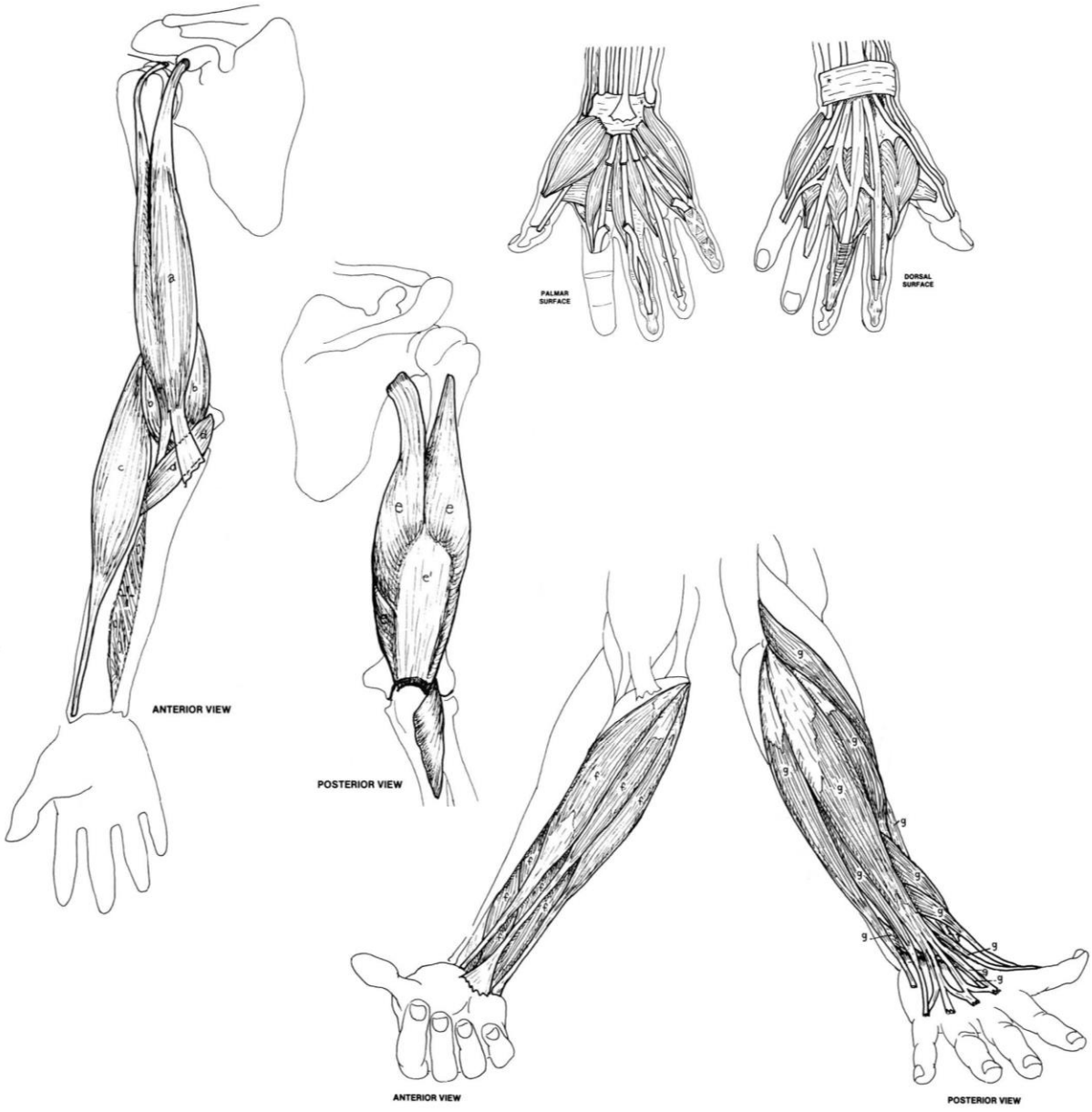
This day will continue your Anatomy, Physiology & Pathology explorations.

MUSCLES OF THE NECK

- ☐ LEVATOR SCAPULAE *e2*
- ☐ SCALENES *e3, e4, e5*
- ☐ STERNO-CLEIDO-MASTOID *a*
- ☐ TRAPEZIUS *x*

MUSCLES OF THE ARM

- ☐ BICEPS *a*
- ☐ TRICEPS *e*
- ☐ BRACHIO - RADIALIS *c*
- ☐ WRIST AND FINGER FLEXORS *f*
- ☐ WRIST AND FINGER EXTENSORS *g*



Anatomy, Physiology & Pathology for Massage – Weekend 4 Homework

Muscle structure & physiology

Long Answer Section: Answer all parts!

1. Draw, label and describe the structure of a typical skeletal muscle. Explain the function of each part that you label. Explain in physiological terms what has happened when a muscle becomes stiff and sore after exercise. How can massage relieve these symptoms?

Short Answer Section: At most a sentence, often just a missing word

2. What are the three types of **muscle** tissue found in the human body? Give one example of where you would find each type. Which of these are not under voluntary control?

3. What is the difference in function between a **tendon** and a **ligament**? What is an **aponeurosis?**

4. What substance, apart from ATP, is produced when muscles function anaerobically?

5. What are the **'origin'** and **'insertion'** of **muscles**?

6. What are **'agonists', 'antagonists', 'synergists'** and **'fixators'"**?

7. What is the difference between a **sprain** and a **strain**? Give examples.

8. Where would you find **actin** and **myosin**?

9. How do tendons attach to bones?

10. Fill in the missing words – **flexion - extension**

eversion - ..... adduction - .....

APP Homework Guidelines

"What is" Question: *Generally requires a one line or one word answer, unless it is a* "What is the **function** of" question *–then it is a* '**Function**' question

"Where is" Question: *Again, generally requires a one line or one word answer*

"How" Question: *Can be a sentence or a collection of sentences*

"Explain" Question: *Will need to be more than one sentence, you need to tell a story*

"Describe" Question: Will need to be more than one sentence – you need to paint a word picture

"Structure" Question: *A sentence or a collection of sentences based on* ***"If you cut it open, what would you see?"*** *i.e. A house is made of 4 walls, a roof, windows and a door.*

"Function" Question: *A sentence or a collection of sentences based on* ***"explaining the purpose of"*** *i.e. The door has hinges toallow the door to swing open and the handle on the door allows the door to be opened. The two work together to allow entry into the house*

"Massage Recommendations" Question: *This means:*

1. *State what you* ***would*** *do (i.e. strokes, techniques) and* ***why***
2. *State what you* ***wouldn't*** *do (i.e. contraindications if any) and* ***why***
3. *State any* ***environmental considerations*** *(i.e. positions, supports, help on and off the couch,*
   temperature, music etc) and ***why***