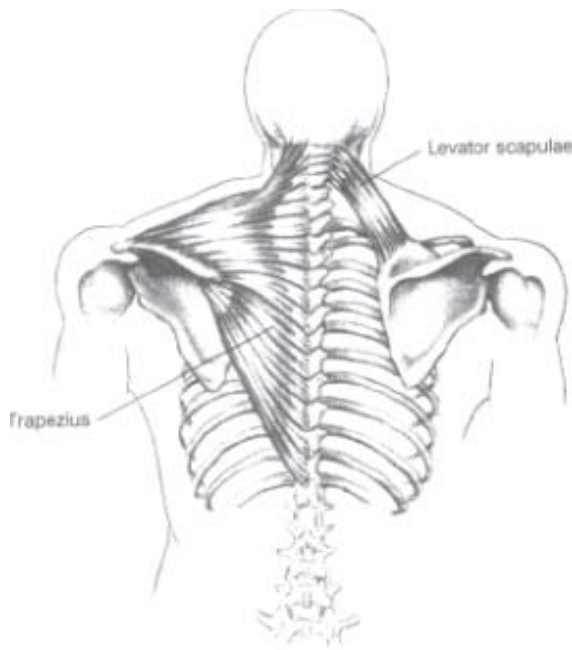


Superficial Muscles of The Back Part II



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Abstract

The following is an in depth, extremely thought provoking article on superficial muscles of the back. We will cover action, origin, insertion, muscle fiber ratio, and strategies for not simply extreme, but optimally insane growth.

Upper Traps and Levator Scapula

Compartmentalization, this is a term that has been used frequently on abcbodybuilding, but what in lamens terms does it mean? I would compare it to a business. In one compartment(department) you have the managerial staff, and in another you have a design team, and in another hard labor. The body also uses compartments to separate modalities or functions(same thing).

There are several actual physical compartments in our body. The deep fascia in a body part(the deepest layer of connective tissue) actually extends out, like a sheet and connects with the periostium. Peri translates to outer most layer, and ostium refers to bone, means exactly that, the outer most layer of bone.

The connective tissue in this way literally acts as a wall. A wall that actually separates functions between muscular compartments, or as in the case of the trapezius it can divide a singular muscle into distinct sections.

Note: there are also many signs of compartmentalization, where we cannot physically see septum. Septum is what the connective tissue is called when it spans out and forms the barrier(i.e. your nasal cavity is separated into two cavities by a septum) For example, if we look at motor nuclei and examine them closely in the biceps brachii, we actually find that " functionally " speaking there is compartmentalization. Meaning, that different aspects of this muscle, function differently. English, A.W., S.L. Wolf, and R.L. Segal. In their study, Compartmentalization of muscles and their motor nuclei found this to be so, not only for this muscle, but several others.

As you can see from the illustration above, the traps can be separated into three functional sections. The upper traps, the middle traps, and the lower traps. Each provides a different function, and obviously contributes aesthetically a different look to the back complex. In this aspect of the article, we will begin with the upper trapezius fibers.

1. Aesthetics of The Upper Trap Fibers



There are two immediate signs that speak volumes about an athlete. The forearms, and the upper trapezius fibers. Normally speaking, if these two aspects of the body are developed, then the rest of the body follows. Aesthetically speaking, this muscle rises like a cobra's hood, and can flair in endless directions!

Shawn Ray believes that " the cornerstone of great shoulders is having tremendous traps that jump off your shoulders like two mountain peaks ready to blow their tops! "

They are essential in almost every pose known to man. The reason for this is that this muscle is literally the visual center of the upper back. They tie together the delts, lats, and neck, and make them appear as if they were continuous with each other.

As far as tank tops go, there is absolutely nothing, like resting the top straps of the shirt, tightly on this towering muscle, and nothing adds more of a dramatic effect to the most muscular, then do the traps.

2. The Levator Scapula Broken Down Aesthetically

Little do most people know, that when they are viewing a freaky pair of traps, they are simultaneously viewing a tremendously developed Levator Scapula.

As you can see, this muscle group adds literally to upper trap thickness (It lies just deep to the trapezius).

3. Origin and insertion points

Trapezius Origin – This muscle originates on the skull, and on the vertebral column to about mid-back level. Which means it originates on the skull and the bony spine, for abbreviations sake.

Note: Later in the article I will give a more technical description of this muscle's origin.

Levator Scapula Origin – The mammoth Levator originates on the transverse processes of C1 through C4. If you recall, the transverse processes are the lateral projections of each vertebra.

C-1 to C-4 refer to the 1st through 4th vertebrae on the spine. There are 7 vertebrae that make up the cervical, or more commonly referred to neck region of our spine. This goes down one vertebra past half of the region.

Insertion: It inserts superiorly on the scapula (meaning on top).

4. Actions

The actions of both the upper traps and levator scapula are in effect the same. In fact, the Levator is essentially an assistant to its larger cousin.

1. Interestingly enough, when the shoulders are fixed in place (not moving) contraction of these muscles will pull the head directly backwards and towards the spine.



Additionally when one side, either left or right of the traps contract alone or independent of the other side, it will pull the head towards it. Which means if the left trapezius fibers contract while the shoulders are fixed, it will move the head, sideways (side bending) toward the left side of the body.

In light of this information, it would behoove an athlete to use neck extension exercises to build up the trapezius. My strategy however when dealing with neck extension to the rear and side neck bending is of **extreme caution**. Any of the following exercises listed under neck, in the exercise section will do!

With the following instructions however.

A. I always begin for these particular muscles, with my head straight upwards. Then from this position, I either move it backwards, or to one side.

B. I always perform succinct reps, and never, ever use momentum! A rep on a neck machine would look like

- a. lower neck slowly for two seconds
- b. pause before full lowering(I do not like to strain the neck)
- c. after eliminating momentum on the pause, extend back slowly
- d. Squeeze slightly and begin again

C. I use relatively high reps, in the 12-15 rep range. Going heavy here can be extremely dangerous. Additionally, I will often go in a higher rep range, say 20 reps. Slower twitch muscle fibers are the ones that act as stabilizers in the neck region. They take well over a minute to fatigue. The cervical region of the spine(neck region) needs stabilization when training in almost all exercises. By building them up, you will not only hypertrophy valuable muscle, but save yourself absolute heart ache by avoiding future injuries!

You can certainly see why many an athlete train neck and traps on the same day.

2. The traps originate on the occipital bone(back of the skull) and insert on the scapula, as does the levator scapula. These muscles combined then elevate the scapula(and clavicle as the traps also insert on the clavicle). You can see why the assisting muscle here is called " Levator. " It literally levitates or lifts its insertion point. There are several ways to mimic this movement. Lets discuss them.

A. Sit straight up and shrug your shoulders. That is the basic movement used to work the traps. But we need to get into the rules of the game.

B. The first class of shrugs, is what I call gripping shrugs. Which means you literally grip a barbell or dumbbell to perform the exercise. As you can see in the exercise section, there are several versions of this(and many more to come in the future). The first strategy many bodybuilders use is the high repetition method. The reason for this is simple. Tension on a muscle ultimately builds it. The more sufficient the tension, the greater the growth rate.

Because a shrugging motion is so short, a set of 12 reps will last tremendously shorter than say a set of 12 on barbell curls. To make up for this, you can double the amount of reps you normally perform. Say 24 instead of twelve. And many go higher than this. That is one way to work this muscle, and is referred to as precision style training.

C. A few tips on this exercise are as follows:

- a. do not allow the head to move forward as this places unnecessary stress on extremely delicate joints in the shoulder region and spine. Therefore you need to keep your spine straight, by not leaning your head forward.
- b. What most do not realize when performing dumbbell shrugs is that foot spacing is also vital. Which is to say, that if your stance is too wide, the dumbbells will rub against the thighs and take tension off the traps. I like to have a close stance, with feet pointed forward.
- c. Get a full stretch at the bottom, and a full peak contraction on the top range of motion.
- e. for pure isolation utilize seated shrugs
- d. for constant tension, utilize cables

D. What was discussed above was for precision trap development. However, there are also a considerably high amount of fast twitch fibers in this region. The key is how does one hit them. One of the best ways is obviously based on insanely heavy loads! Adam Knowlden recommends using a safety rack like so

" Place the safety racks so that you can let your arms hang down with a barbell and have the least amount of room between the safety rack and the barbell. In other words you should have the least amount of room between the safety bars and a free hanging barbell." - Adam Old School Knowlden

By utilizing this method, you can use heavy poundages and not have to strain unnecessary areas to do so. The key is the traps here, and nothing else. With this in mind, I would utilize heavy sets of 4-8 reps. Adam also recommends going heavy and high rep. How can you do this you say? By utilizing the rest pause method. Here's how he accomplishes this:

" You will begin by utilizing behind-the-back barbell shrugs. Pick the bar up and shrug all the way to the top and squeeze your traps hard at the top of each rep. Once you hit failure, set the barbell down, turn around immediately and perform barbell shrugs to the front. You'll find you can still lift the barbell because shrugs to the front are easier than shrugs behind your back. Continue to failure again.

Note: Old School, as you can ascertain from his articles on training principles, is a believer in creatively utilizing shock training. He can literally take a shocking principle and add an extra shock to it. This, technique used here is a twist to the average superset, and we like to call it the polar compound set. A similar exercise, performed at opposite poles, and it works incredibly!

Now comes the "beyond failure" part. Once you reach failure doing the reps smoothly to the front. Set the bar down on the safety racks for a split second, pick it right back up, and do a shrug, set the bar down for a second, then shrug again. Set the bar down for a second and shrug again. Continue doing this until you can't shrug anymore! This is an awesome way to rest-pause. It's similar to doing pin-pulls or deadlifts where you set the bar down for just a split second between reps.

The idea is to go to failure to the back, immediately turn around, go to failure to the front, then rest-pause to go past failure. Remember to set the safety bar up so when you do your rest-pause reps the safety bar is just below where the barbell hangs when you are fully extended. This will ensure your traps are doing the work and not your lower back! " - Adam Old School Knowlden

Like a surgeon, he not only set up an environment conducive to hit the high threshold fibers, but he also incorporated the superset into mix. Taking extra care to hit the traps from all angles. Additionally, his method used **maximum motor unit recruitment**, which can assist in all areas including heavy lifts such as the deadlift, and clean and jerk.

E. What is another way to go super heavy with maximum concentration? Have you ever finished a set of squats, and your traps been muscularly worn out? This is why the Hise Breathing Shrug is so effective([click here to read](#)). You can go insanely heavy, and blast the daylights out of your fast twitch muscle fibers.

Additionally we in our modern day world of fitness can mimic the hise on machines. And I would wager to say, that these versions of shrugs are in a class all their own. I say this, because they allow complete focus on the target area! The machines I am talking about are Smith Machine Hise Shrugs, Calf Machine Shrugs, hack squat machine shrugs, and anything that takes gripping work out of the equation.

F. Another excellent way to go heavy is through jump shrugs. You essentially use high velocity movements to target fast twitch fibers. Grasp a pair of dumbbells, bend your knees slightly, and jump just an inch or two in the air while using the momentum to shrug the weight. I suggest keeping the weight to 6-8 reps. You can also use these to cheat after failure has been reached.

G. Adam discussed an excellent superset. Be sure and get creative on your own. For example, try overhead press shrugs, and once you reach failure, lower the weight and perform normal barbell shrugs to failure. I find this creates tremendous mass. Mix and match several! One of my favorites is to set the bar on the rack as discussed above. Then set another bar above on a higher rack. Shrug the weight to failure with normal barbell shrugs, then go underneath the weight on the rack and use the Hise method to failure!

H. To enhance range of motion, utilize unilateral movements. Which is to say, single arm shrugs. Range of motion is noticeably increased as is focus when this is applied. You might superset one arm shrugs with side neck bends.

3. Of all athletes on the scene, power lifters get a badge for superior trap and levator scapula development. This is because these muscles are excellent for " pulling movements. " The traps and levator are so strong, that even a beginning lifter can shrug relatively large amounts of weight! Let alone an experienced athlete. Which is why they are relied upon so heavily. This means, by going through a power phase in your lifting, that includes cleans, jerks, heavy deadlifts etc, and focusing on the traps you will gain tremendous mass in the area.

A. Speaking of pulling movements, nothing builds the traps and ties them into the delts like upright rows. Try pre-fatiguing this muscle and the Levator with shrugs and

finishing them with upright rows.

4. Muscle Fiber Ratios For The Trapezius

The fiber ratios within this muscle group are 53.7% type I (27-77), 46.2% type II fibers. This shows a higher percentage of slow twitch (type one) then fast twitch II. However, most of the fast twitch fibers are located in the upper trap region. I suggest cycling between high reps, heavy reps, and explosive reps. The amazing thing about this muscle group is that it grows easier then any in the body. Almost all athletes can get results immediately. A twelve week trap cycle may look like

weeks 1-2 higher rep, focused trap work – i.e. neck extensions, and seated high reps shrugs. This builds stabilization for heavy movements as well!

weeks 3-4 heavy rest pause Old School style training

weeks 4-6 – A major reliance on pulling movements, even for shoulder workouts such as cleans, and heavy cheating upright rows

Rhomboids and Middle Trapezius



Collectively, these muscle groups are primarily responsible for center back thickness. When you see incredible density, and bone jarring muscle in the center back area, the Rhomboids and middle trapezius are what provides this. Period!

Fortunately, these vital components in physique development have like actions. Therefore I will first describe exact appearance and origin / insertion of each. Then I will discuss their actions as a unit. Which is to say, if you work one of these muscle groups, you will indeed work the other as well.

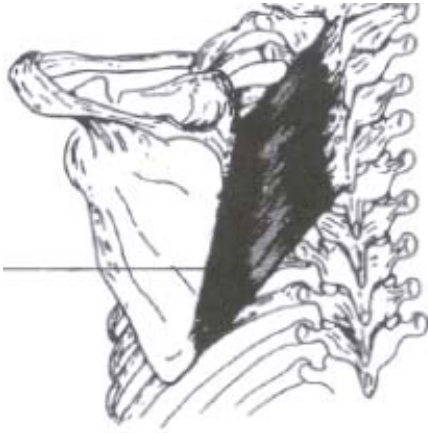
Anatomical Analysis of The Middle Trapezius

Origin - The entire trap region originates on the skull(occipital bone to be exact), at the end of the neck region (c7 vertebra) and continues to connect to individual vertebra until it reaches t-12. The middle trap region is literally the middle portion of the origination. In actuality the traps originate on the spinous processes of the vertebrae. That is the posterior aspect of these bones. Here's an illustration to remind you:

Insertion – The middle trapezius inserts on the medial border of the scapula. Again these are referred to often as your shoulder blades. And medial simply means the middle portion

This region of the muscle is often referred to as the transverse aspect of the trapezius. This is due to the fact, that the middle fibers run in a transverse plane. This means that they run, side to side. You can certainly calculate their actions based on this.

Anatomical Analysis of The Rhomboids



Origin - The Rhomboids actually lie just deep to the trapezius. If you were to look at a cadaver, and remove the traps, you would immediately see two very thick, dense muscles. They run side to side, at a slanted angle. The actual origin is on the spinous process of c7(end of the neck area) and on t-1 to t-5. Therefore it runs from the end of the neck all the way to the middle of the posterior rib cage.

Insertion - Ah ha! Just like the trapezius, this muscle inserts on the medial border of the scapula. Now we are beginning to see why their actions are similar!

Aesthetics of Both Muscles

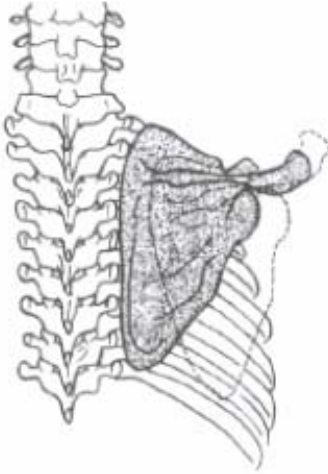
The middle trap fibers exhibit a freaky diamond shaped appearance right down the center back area! The Rhomboids however are deep, meaning that building them up, directly adds thickness to the dorsal complex. Many athletes have tremendous lats, but severely, severely lack thickness. I call this the deflation syndrome. They have the sails in their lats, but all the wind is taken out due to a lack of Rhomboid and Trapezius development.

Just look at flex wheeler when he poses. When performing a double back biceps pose, his center back muscles just go crazy! They literally put on a show all by themselves. You don't know whether to look at his width or the dance performed by his rhomboids and traps! Simply incredible!

Actions

You tell me the action performed here. Both muscles originate on the vertebral column(spine). Origination again means the aspect that is not moveable. Now, they then insert on the medial border of the scapula, which is very, very moveable. Additionally the fibers run horizontally(side to side). When these muscles contract what are they going to do?

The answer is that they will literally pull the scapula toward the midline of the body. This is called adduction, or in more proper anatomical terms, retraction!



Mindset

Your mindset, must be centered around these muscles situated in your center back. Your goal should not be anything else but that. This means that an athletes full concentration must be on the scapula to the left and right respectively. The mission is to attempt on every rep performed to literally touch your shoulder blades together! The top range of motion, must, and I repeat must emphasize a severe squeezing motion of the scapulas. This is the key to developing the transverse trapezius fibers, and the rhomboids major and minor.

Game Plan

A. I believe that when working these muscles, the best way to operate is in a horizontal plane. This means that your forearms and humerus should always be perpendicular to the ground. There is room for a bit of an incline and decline here, but the basic position for thickness should be in a horizontal plane. How does that translate you ask?

Note: When I say perpendicular, whether you are bent over or standing, imagine that I am referring to a standing position. Which means, the position your arms are in, if you were standing would be perpendicular to the ground.

That is an excellent question. If you analyze our exercise section, you will note that there are several exercises to work the back out. Essentially every exercise in there can target the rhomboids and traps with optimal efficiency, when performed in this plane. Take the bent over barbell row. If I use an under hand grip and row backwards, I have really changed the focus on the exercise to extend the humerus. However, if I widen my grip, and stay in a horizontal plane, when I pull the barbell up, the focus will be on retracting the scapula. The first movement hit the lats dominantly, while the latter worked the traps and rhomboids.

Lets analyze the one arm dumbbell row. If I perform a traditional one arm row, I keep the elbow tight in, and extend extremely far back. Again, by focusing on pure extension, I am really targeting the lats. However, if I turn my arm outwards, so that it faces the way it would on a wide grip barbell row, when I row up, it will retract and squeeze my scapula. See the difference in mindset?

Test what I am saying right now. While sitting down, bend your forearms and lift your elbows and humerus up so as to form a 90 degree angle with the ground. It should almost appear as if you are steering a wheel. Now row your arms straight back until you cannot contract any harder. As you can see, this movement was optimal for squeezing the shoulder blades. And that is the entire point! Take any exercise and utilize a similar angle and retraction of the scapula will be heightened!

B. Venom Rows – I would now like to discuss perhaps the single best rowing movement I have ever utilized! I call them Venom rows because our moderator introduced them to me! I ended out using this for weeks on end, because I liked them so much!

You simply take a dumbbell, and place it on its head so that it is vertical. From here bend down with your knees and keep a strong arch in your back. Now clasp the dumbbell with each hand as if you were holding a tray. You are grasping its head, not the handle! The handle should be pointing downwards as should the opposite head of the dumbbell. From here you should place yourself in a bent over row position. The more forward you can lean while maintaining a strong arch in your vertebral column the better. For the center back, row toward your lower pecs. I like high reps on this movement, as the middle traps have a tremendous amount of slow twitch fibers. For the lats however row to the lower abs and focus on extending the humerus.

Believe me, when I say that the intense pump and burn rival the t-bar row straight on! They are that good!

C. Horizontal Shrugs – The Australian Beast, who goes by the name of Beefcake introduced these babies to me. When we work the upper trap fibers, we stand erect and shrug the weight we are holding to elevate the scapula. The principle here is similar with one exception, you are shrugging in a horizontal plane. For example, when in a bent over row position, rather than row the weight, simply shrug it backwards, while retracting the scapula. You can use this with a barbell, dumbbells, cables, the smith machine, Venom Rows, T-Bar rows, or any exercise who's starting position, allows you to shrug the weight, rather than move your arms at all. The only movement should come from your scapula.

You are literally isolating your middle trap and rhomboid area! Its pure genius! Additionally this position allows for a tremendous amount of weight, as does any shrug. Next time you go to failure on bent over rows, continue the set with horizontal / beefcake shrugs! Even though you failed, you will still be able to get twice as many shrugs as you did reps, which means you will have targeted that many more muscle fibers!

D. Transverse laterals – Again, the goal is to squeeze the shoulder blades together on each and every repetition. Apply this to bent over laterals and you will get the most amazing pump ever! The key is to bend forward more on the movement then when working the rear delts, and to focus purely on retracting the scapula. Every rep should attempt to touch both shoulder blade together. Incidentally, the best movement to take full advantage of this, is prone dumbbell flies. These are bent over laterals, while lying on a flat bench. Nothing brings out the detail like this exercise can!

Additionally I would utilize slightly inclined laterals as well.

E. On That note, a favorite back blaster is the partial lateral contractor method. You simply perform a bent over lateral(in a position optimizing retraction) but only on the top 1/3 range of motion. This allows you to continually keep maximized tension on the adductors.

F. If you recall from my article on the lattisimus dorsi, I mentioned that I do not perform behind the neck pulldowns for lats. Why? Because it subtracts from the lats and recruits much of the middle back region. Therefore, when performing behind the neck pulldowns, and pull-ups, realize that these will optimize rhomboid and trap gains. The key again, is to focus on the shoulder blades, and squeeze them every rep!

G. John Parillo is a huge believer in behind the neck barbell shoulder presses because the traps and rhomboids must stabilize the scapula to perform them. This is a very interesting methology and certainly worth the effort.

Muscle Fiber Ratios

The Rhomboids are 44.6% type I(slow twitch fibers) and 55.4% type II fibers. Where as the trapezius is 53.7% type I, 46.2% type II fibers. My suggestion is therefore to vary your rep ranges considerable, as half the fibers are essentially slow, and half essentially fast. This calls for approximately a 70 percent focus on fast twitch fibers, and a 30 percent focus on the slower fibers.

2. Further Strategies

A. I believe that the key to working these muscles is focus. You must feel them contract, or they will not develop to their full potential. Personally, for the rhomboids, I believe that supersets and trisets are optimal, as they target a range of muscle fibers, and allow the athlete to develop a superior mind muscle connection. Here are a few of my favorite supersets:

1. On the seated cable row machine do the following. A. Row to the neck to failure, then immediately row to the upper abs, but still focus on the scapula, when you reach failure, perform cable deadlifts, with a pure focus on retracting the scapula.
2. Any rowing movement supersetted with a lateral movement. This is an Old School specialty and it works extremely efficiently! Example: Bent over barbell rows supersetted with bent over laterals.
3. Incline dumbbell rows, supersetted with partial deadlifts.
4. Venom Rows, supersetted with incline dumbbell rows, supersetted with partial deadlifts.
5. Any rowing movement to failure, supersetted with horizontal shrugs. I.E. seated cable rows to failure, supersetted with cable shrugs to failure.

B. Another strategy is to pre-fatigue the area. To do so, perform high rep shrugs, or strip set shrugs, or ascending / descending shrugs. Following this perform your normal back workout. Your traps and rhomboids will feel absolutely obliterated!

Conclusion

The complexities of the back complex continually amaze me! The previous three articles have shown this to a T. There are still three more to come on this vast subject. And each of them will appear in future installments of beyond failure magazine. Until then, keep pounding the weights, and allow nothing to stand in your way!

Yours In Sport

Jacob Wilson
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