

EXERCISES TO HELP STRENGTHEN YOUR SHOOTING STANCE, SHOT CYCLE AND TRAINING TO INCREASE YOUR DRAW WT.

These exercises are meant to be done slowly with a number of sets (3) of 10 repeats each set, starting with light wts to begin with. The purpose here is to strengthen the muscles used in drawing the bow, the stability of the shoulders and to increase your strength- they are not about building muscle bulk (hence more reps with lighter wt rather than few with high wt). The classic meme of *no pain no gain* is **NOT** proper thinking. Exercising to the level of pain is to invite injury and is destructive– so maybe we can change the meme to: *no strain no gain*..strain in a good sense not a muscle tear. These can be done using free wts but I prefer to use machines like the Nautilus system or similar machine systems. Caution is always the first order, do not do these exercises to the point of pain or undue strain. The goal is to finish the set at the point where you are feeling tired, not beginning with weights that strain the muscle– repetition is the key with just enough wt, again, use lighter wts and more reps. These exercises focus on your core strengthening but also include leg strengthening as part of your stance.

Photographs of models on some machines show starting and ending positions on the piece of equipment, demonstrating one rep. Also included (where available) are illustrations of the particular muscle groups being exercised.

SHOULDERS-ROTATOR CUFF SUPPORT

A lot of archery overuse injuries occur to the shoulders and rotator cuff so it is important to not only use proper shooting technique but to strengthen and stabilize this part of the anatomy.

The first set of exercises involves abduction (movement away from the body centerline) adduction (movement toward the body centerline).

Using the weight pulley system (Fig 1)

Position I:

1. Set pulley to about waist height
2. Grab handle and step away from apparatus pulling up on the wt system- i.e. loading the weight. Plant elbow against hip as much as possible and rotate arm with lower arm parallel to the ground away from the body and towards the body past centerline. Repeat about 15 reps (user determined). (Figs 2 then 3)

Repeat using the other hand without moving body (Fig 4 and 5).

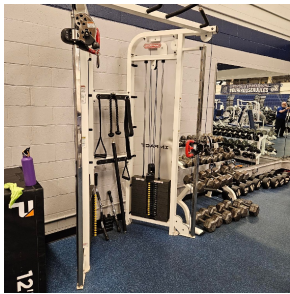


Figure 1



Figure 2



Figure 3



Figure 4



Figure 5

3. Do an about face (180 degrees opposite of the way you previously face) and repeat steps. I do about 3 sets of 15 reps with each hand this way but you determine what is best for you.

Position II

1. Set pulley system about shoulder height and add wt (you determine how much).
2. Walk away from apparatus loading the weight.
3. With your upper arm parallel (Fig 6) to the ground allow wt to pull hand till it is above the shoulder. Then straighten the arm flexing outward to full extension parallel to the ground (Fig 7).
4. Switch hands and repeat. Again I do three sets of 15 reps.



Figure 6

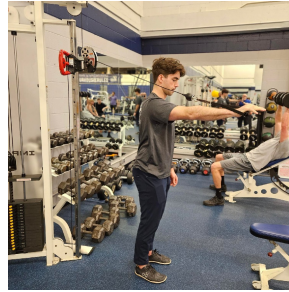


Figure 7

LEG AND KNEE

Leg fitness is important in maintaining proper stance and stance is the foundation upon which the stability of the rest of the shot cycle is based. Maintaining a strong leg fitness is important in maintaining a firm stance. Frankly, most people who walk a lot and climb stairs regularly can skip this step unless they want to build up strength.

LEG PRESSES: (Fig 8)

1. Sit with back against support and position legs and press to full extension. I do 30 reps at my body wt. Then rest with legs fully extended for 30 seconds and supported bone on bone then repeat. I usually do about 3 sets of 30 reps each or until tired. Figure 9 shows the muscle groups strengthened by this exercise.



Figure 9

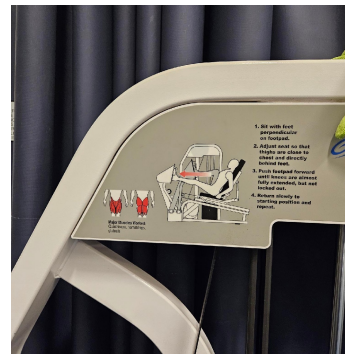


Figure 8

KNEE SUPPORT quadricept strengthening: Figure 10

1. Sit with back supported and legs hooked behind pads and extend legs to full extension. Care with this exercise because too much wt or too many reps can damage the soft tissue around your knee area. Again if you walk a lot and climb stairs this may not be a necessary exercise. Figure 11 shows the muscle groups strengthened by this exercise.



Figure 10



Figure 11

BACK AND ABS

If you have a sore back strengthen you abdominals the old saying goes. Both of these muscle groups are used in unison and weakness in either can lead to problems. As part of the core muscle group necessary to proper bow draw and bow hand support the lower back and abdominal muscle group strengthening are important. Also, back muscles are easily damaged and many people have problems with back muscles so care is required here- don't over do things. But both of these excursions are very helpful to core muscle build up.

BACK MUSCLES Figure 12 shows machine and proper use as well as the muscles strenghtened by the exercise.

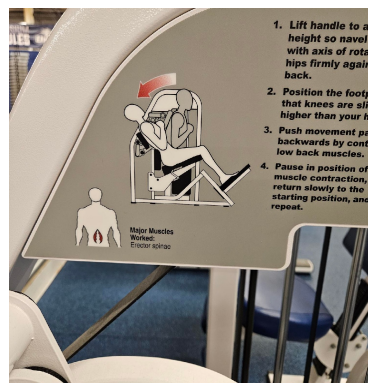


Figure 12

ABDOMINAL MUSCLES Figure 13.

Suspend body resting on arm rest with hands on grips (Fig 14). They slowly raise legs to the waist level or slightly above (Fig 15) then relax and repeat. Again go slow at first. I usually do 2 sets of 12 reps but you should determine the proper number for you.

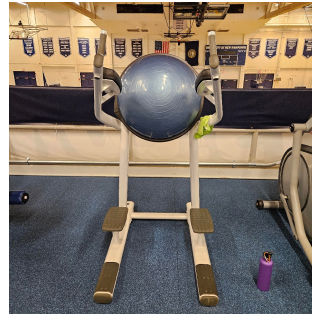


Figure 13



Figure 14



Figure 15

ARMS-triceps and biceps

The importance of arm strength is obvious not only in supporting the bow but keeping it as stable as possible and as part of the drawing mechanism. Weakness here can lead to increase bow hand movement and poor control of drawing the bow back thus putting more strain on other muscle groups.

BICEPS



Figure 16

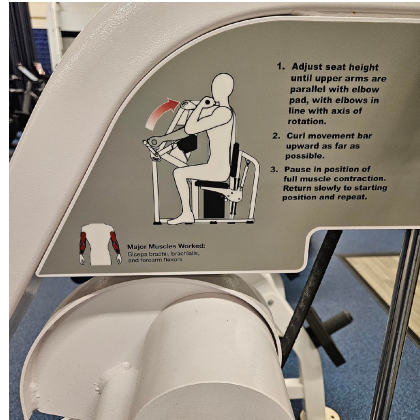


Figure 17

TRICEPS



Figure 18

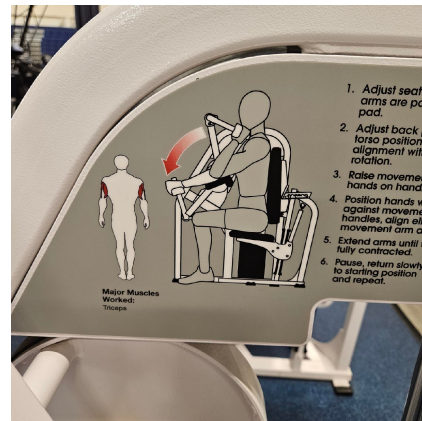


Figure 19

CHEST AND ARMS (Figure 20)

As part of core strengthening the pectoralis and shoulder deltoid chest muscles are important. Also using this machine one can strengthen the trapezius and latissimus dorsi muscle group which is the major drawing muscle. Figure 21 shows muscle groups strengthened by this exercise



Figure 20



Figure 21

Figure 22 starting position



Figure 22

Figure 23 compress arms inward



Figure 23

Figure 24 Move bars so pad close in on the center (Fig 24) , place hands and arms between pads (Fig 24) and expand outward (Fig 25). I often push my arm threw so that when I expand I am using my elbows to push the pads apart. This also strengthens the trapesius muscle which are involved in drawing the bow.



Figure 24



Figure 25

SHOULDERS AND PUSH Figure 25

This exercises the deltoid and pectoralis muscle groups that are important in bow hand stability. Figure 27 shows proper use of the machine and muscle groups strengthened.

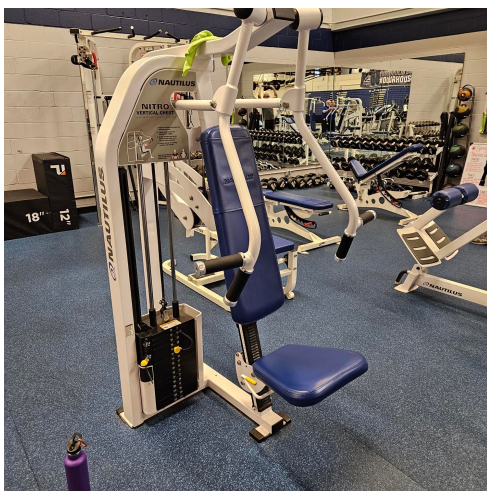


Figure 26

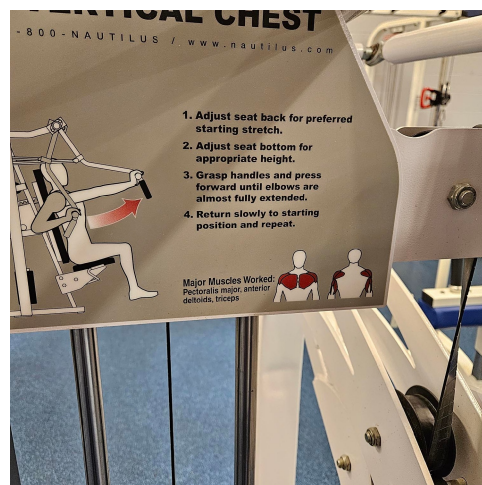


Figure 27

TRAPEZIUMS AND other DRAWING MUSCLES Figure 28

This is an all important exercise in getting stronger at drawing the bow. The trapezium and latissimus dorsi are the major group getting shoulders aligned and scapula moved back toward the spine. And remember both sides need to be equally exercised to prevent unbalancing the body. This is not a rowing machine and it is important to pull the bar back to the point of moving both shoulder blades towards the spine. Figure 29 shows muscle groups strengthened.

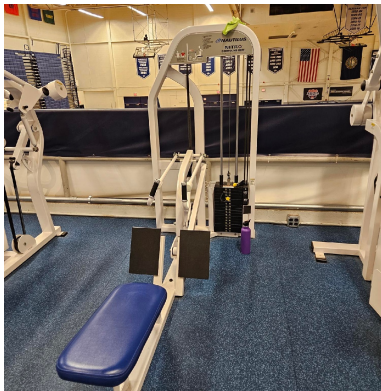


Figure 28



Figure 29

I usually start with 10 lbs over current bow wt and work my way up over time. Fig 30 shows starting position, back erect- then pull back with both arms to the point of causing the shoulder blade to move towards the spine, fully engaging the trapezium muscle group (Fig 31). I usually do 10 of these.

STARTING POSITION



Figure 30

FINISH POSITION

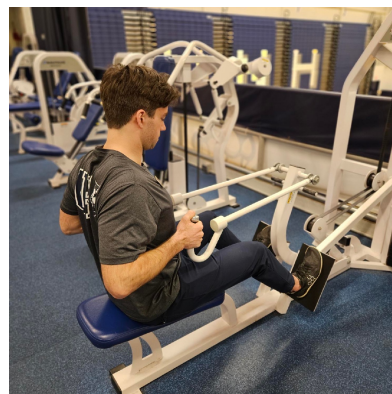


Figure 31

Then I repeat the above using one hand at a time to draw the handle back fully engaging the trapezium muscle on one side (Figs 32 and 33). I usually do 10 of these then switch hands and repeat. I finish this up but adding 10 more pounds and repeating step one again.

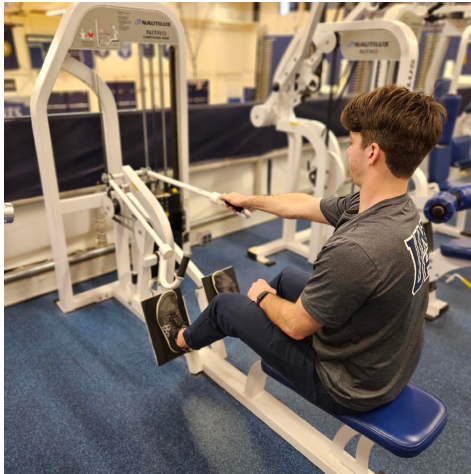


Figure 32



Figure 33

You can add wts to this workout as you progress over time...

STRETCHING

It is important to stretch muscles as well as exercise them. Stretching helps prevent the formation of muscle adhesions which lead to soreness and stiffness. Dynamic stretches are OK before an exercise but static stretches should be used after a workout. It is recommended to stretch muscle after a workout when they are warmed up and if you stretch before a workout then the stretches should be gentle dynamic stretches. I also prefer static stretches as opposed to using one muscle group to stretch another muscle group- although that is possible more care is required that you do not work against yourself. So after a work out I use wall walks and body weight to gently stretch muscles. I hold the stretch for 20-30 seconds, rest then stretch again etc.

For shoulders I like wall walking stretches:

Raise your arm to shoulder level and gently walk your fingers up the wall as high as you can as you walk towards the wall . Hold for 3 to 5 seconds. Then walk your fingers back down. Repeat 3 times. Rest and repeat, you can increase the time you hold the raised position but no longer than 20 seconds. In this stretch you do not use your arm muscle to raise your arm it goes up because you walk towards the wall forcing it up– keep the arm muscles relaxed.