Exercises for Dry Training day 2016 – Functional & core stability

Core stability and flexibility is what gets us through all the movements of the day without aches and pains.

As a toddler we develop balance and core strength, with the right muscles working to do the right job, as we get older, spend more time sitting down and less general movement activity (or like paddlers spending time in strange positions) some essential but less well known muscles get weaker. To try and keep our bodies moving, other muscles try and take over when they are not designed to - this causes significant problems

So bad news - it gets worse as we get older (could be as early as age 8) and depending on how active we are.

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| Poor active day | Lying down in bed | Sitting (work/school/travelling/sofa/dinner | Active - sport, activity or just moving around |
| Good active day | Lying down in bed | Sitting (work/school/travelling/sofa/dinner | Active - sport, activity or just moving around |

Good news - its easily corrected without hours in the gym or at home, a few exercises and changes to posture make a big difference to retrain your body to work as it should

This session will go through 4 tests to see where you are and offer up some exercises that will help. Yoga and pilates make a big difference as they focus on control and flexibility of large and small muscle groups rather than simply building power.

Muscles in Core vary depending on what text you look at. Can include Internal and external obliques, erectus spinea and erectus abdominus, adductors and abductors, quads and hamstrings

For us core is the four muscles around the hips that stabilise rest of the body - Glute Max, Glute Med, Hip Flexor and Transverse abdominals

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| Glute Max | buttocks | Controls standing up right and sitting down, large muscle so if front muscles are strong then get un balanced |
| Glute Med | Side of buttocks (hollow bit) | Specialist control rotation of hips - key for paddlers to maintain due to body position |
| Hip Flexor | line of muscle down the front of the quads from hips | Balances out glutes with TA's, Gets tight and weak from sitting and not stretching it out and body tips forward |
| TA's | the flat plate of muscle between the belly button and hip bones | Balances out the glutes, but weakness here limits flexibilty and ability to stand and walk normally |

Details of the exercises will be sent out by email after today but please make notes if you wish.

If you do nothing but practise the test exercises you will still see a big difference especially as adults

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| Test 1 | Prone active hip extension - How in pairs.  Participant lies face down in straight line, arms by side  Partner asks if they can touch then if yes, presses one forefinger into the centre of glutes, and one in centre of hamstrings.  Participant lifts leg just off the floor keeping it straight and lowers  Partner feels which muscle activates first as leg lift.  Record which muscle works first on each side and swop over | What to look for  Hips should not twist, keep both hip bones pointed to floor.  When both done, discuss  Repeat exercise concentrating on squeezing activating glutes FIRST then lift leg. |
| Test 2 | Pelvic and Hip Stability – in pairs  Athletes lie on back, knees bent to 90 degrees and feet should width apart.  Lift pelvis off the floor, forming a bridge  Stopping when their knees, hip and chest are in line | Are both hips bones level with each other/ equal height from floor?  Are knees stable and not drifting together or apart?  Are hips in line with knees and chest? |
| Test 3 | Proprioception  L1. Stand on one leg for 20 seconds, then try other side  L2. Shut eyes  L3. Horizontal  ADD text | Are Hips level?  Shoulders/upper body should be parallel not tipping sideways to balance |
| Test 4 | Clam shells |  |
| Prone Abdominal Hollowing | Lie face down on floor, neck straight, chin tucked in and hands under forehead  Relax legs, glutes and abs  Slowly contract your abs, pulling your navel up away from the floor towards your spine  Also tighten your pelvic floor muscles as if you are trying to stop yourself from urinating | Keep breathing and hold contraction for 10 – 30 secs before relaxing  Repeat 5 – 10 times |
| Prone active hip extension  (same as test 1) | Lie on front, head to one side and arms by side of body and legs straight  Activate glutes (buttocks) and lift leg off the floor | Keep leg straight as lift  Keep hips parallel ideally hip bones on floor to avoid twisting.  ANY exercises like this MUST activate GLUTES to protect lower back. |
| Supine Bridge L1  (same as test 2) | Lie on back, face up with arms by side  Keep knees bent and feet on floor  Brace abdominal muscles and slowly push hips towards the ceiling, lifting your buttocks, lower and mid back off the floor.  Aim to get your hips in line with your thighs and torso, squeeze glutes and TA’s to maintain at high point.  Hold 10 – 20 seconds then lower body to floor  Repeat 8 – 12 times | Your weight should be through your shoulders, your upper back and feet  Avoid pushing your hips up too high as the emphasis is on maintaining neutral alignment of the spine |
|  | Level 2  When can comfortably do level 1 then progress  As above but when hips are lifted stretch 1 leg out straight  Knees stay together  Hips level  Hold for 20 secs then repeat on other leg  Start with 1 or 2 on each leg and build up to 10 | You should feel supporting buttock, back and TA (lower Abs) working to keep position  If hips start to twist, relax and reset or continue with level 1  This is difficult to do and keep hips level. DON’T try until really happy with level 1. |
|  | Level 3 – dynamic  Lift hips to bridge position as above  Lower your pelvis but do not allow it to tilt or touch the floor.  This should be a slow controlled movement  Return to original position with hips raised | Keep pelvis level throughout movement  If you feel hamstring tighten - STOP |
| Lunge stretch | Start on one knee and front foot on floor.  Take half step forwards with left foot, pushing your hips forward but keeping them level  Body should be upright with TA’s braced and glutes on back leg squeezed    Hold for 5 – 10 sec  Relax and repeat 5 times, then swop legs | Make sure front knee does not go beyond toes, if it does then move foot forward  Don’t lean body forwards or allow TA’s to relax as arches lower back |
|  | Level 2 – start as above  Same starting position with left leg forward  Placing your right hand on the floor for balance  Take your left elbow and reach down the inside of your forward leg until you feel a stretch  Then place your left hand on the floor and push your hips upwards as you straighten the front leg  Return to starting position and repeat  Hold final position for 5 sec, then return slowly to start. Build up to 5 times on each side | Squeeze the glute muscle of your back leg.  You should feel a stretch through: the groin,  hip flexor muscle of the back leg,  and glute muscle and hamstring of the front leg.  Need to build up to this exercise as stretches out a lot of other muscles |
| Plank | Level 1  Lying on your stomach with forearms on the ground under your chest  Push off your elbows supporting your weight on your forearms and knees  Hold the static position  Return to floor for few minutes rest then repeat up to 5 times for similar times.  Gradually build up to 30 seconds hold  Repeating up to 5 sets | You MUST squeeze your TA’s and glutes during this exercise to protect your lower back  Straight line from shoulders to hips to knees (or ankles)  Bottoms should not stick up in the air or sag. If they do, drop to floor and reset with shorter time; or drop back to knees. |
| Level 2  When you can comfortably do the max in level 1 then move onto level 2  As above but on toes instead of knees |
|  | Level 3  Maintain plank but lift one arm out straight forward, circle sideways and back to centre, Swop arms | Only try this when can hold the correct position on toes.  Make sure when move arm that shoulders don’t become unbalanced and neck does not lift which arches back |
| Horizontal Balance | Stand with feet close together and spine in neutral  Transfer your weight onto one leg and lean forwards bending at the hip. Keep your spine in neutral as continue to lean, extending the raised leg behind you.  Arms can be out to side to help balance  Keep the alignment between your upper body and extending leg, with supporting leg is bent slightly at the knee  Brace your TA’s and abdominals tightly to maintain your alignment  Lean forward as far as you can whilst keeping in alignment. Build up to being horizontal  Hold for 10 secs, slowly go back to standing bracing TA’s as go  Swop sides and repeat  Repeat up to 5 times each side | Keep both shoulders level with each other to avoid twisting the spine  Keep both sides of the hips level with each other to avoid twisting the pelvis  Use a partner to check  Can use a wall or table to help if balance but important not to put weight through it, otherwise reduces your body working as it should  Once you can comfortably hold horizontal – increase intensity by stretching arms out forward (keep relaxed shoulders) and/or shutting eyes during movement |
| Hundreds | Lie on your back with arms by your sides, knees bent.  Push lower back towards the floor, pull in pelvic floor and brace your TA’s  Raise legs, bending them so they form a right angle with hips and knees  Keep your TA’s tight but abs relaxed so can breath  Keep arms straight and lift hands off floor a few inches and gently raise and lower arms tapping the floor up to 100 times | MUST keep TA’s braced during this exercise, to protect your lower back  If leg angle changes or back starts to lift, put legs back to floor and relax. Then reset and try again |
| Abdominal hollowing | On hands and knees with knees under hips and back relaxed in neutral position  Pull TA’s up and in as if trying to pull lower abs away from something sharp or hot  Help with the exercise by pulling the pelvic floor up and in  Should feel slight pull low in groin  *Hold in for 10 sec, relax and repeat 10 times* | Don’t arch or move back/shoulders  It is a small movement  Don’t allow the abs to take over so keep breathing, singing or talking during exercise  Don’t sag back when you relax TA’s hold |
| Leg extensions | Lie on your back with legs bent  Push lower back towards the floor, pull in pelvic floor and brace your TA’s  Raise legs so form a right angle with knees and hips, shins parallel with floor  Keep hips completely still then lower and straighten out one leg so heel is about 4 inches off the floor. Movement is slow and controlled  Return to original position ad repeat on other leg.  *Build up to 10 reps on each side and up to 3 sets* | Keep both buttocks on floor with equal pressure as helps to keep hips still  Can be hard to slowly straighten as fighting gravity  Equally is hard to pull back to starting point without twisting hips or arching back.  Have hands slightly under lower back so can feel if pressure changes. |
| 90/90 stretch | Lie on back with knees bent, feet flat on floor  Arms out straight on both sides  Both Shoulder blades touching the floor  Gradually drop knees to one side as far as can without one of your shoulder blades lifting (if it does then bring knees back up until they stay on ground)  Look in the opposite direction  Hold for 2 secs at maximum point, then slowly bring back to centre  Repeat on other side,  Up to 10 times each side | Can have a towel or pad between knees to cushion them  Only rotate as far as you can without knees separating  Breathe out as stretch.  Feel it in torso, middle and upper back and around hips  You might have different stretch on each side depending on shoulder flexibility and hips. Do more reps on the least flexible side to help balance body out. |
|  | Level 2  If you can get knees comfortably to floor together without shoulder blades lifting then try straightening out top leg when get there. |  |
| Knee Hugs | Lie on back with legs in air and knees bent  Bring knees towards chest and hold shins  Pull knees in a tight as comfortable to round lower back and stretching the muscles  Aim to hold for 15 -30 sec, relax then repeat | Try to keep head and shoulders on floor |
| Baby Cobra | Lie on stomach, legs out straight, forehead on floor and forearms flat on floor (hands beside head)  Tighten glutes and raise shoulders off floor (supporting through lower arms)  Feel stretch down front of body  Hold for 5 secs at top, relax and repeat 5 times  If you can’t feel stretch with lower arms on floor, extend the stretch by lifting further, with hands on floor. | MUST tighten glutes during this exercise to protect the lower back  Only go as high as you can comfortably |
| Glute stretch | Lie on floor with legs bent, feet flat on floor  Lift left leg and rotate balancing ankle across other leg just knee  Gently rotate balanced leg outwards pushing knee away.  If you can feel stretch around glutes then hold for 10 – 20 secs and reverse movement back to start with both feet on floor  Repeat on other side |  |
|  | Level 2  Follow as above until that finish point  The lift supporting leg  Make sure balanced knee stays out and pelvis doesn’t twist |  |
| Hip flexor stretch | Lie on stomach legs straight  Keeping both hip bones on floor bend one knee to right angles  Brace glutes and Lift knee off the floor and hold  You might be able to reach back with arm and help the lift but don’t worry if can’t  Hold for up to 10 secs, relax and repeat |  |
| Hamstring stretch | Sit on floor with legs out straight in front of you, feet flexed so toes pointing to ceiling  Pull up through body, stretching head to ceiling,  Hold for 10 secs and relax, repeat  For some this might be all you can do, that’s fine. Gradually develop the stretch over time  If can comfortably sit in position one, then try and tip body forward from waist keeping back straight.  Reach along legs with arms but keep shoulders relaxed.  Hold at maximum stretch for 10 secs, relax and go back to sitting upright, rest then repeat twice, see if can reach further forward | don’t hunch shoulders  Bend comes from waist not mid back. Don’t bend shoulders forward even though will be able to reach further forwards |
| Seated spinal twist | Sit on floor with legs out straight  Bend right leg and place over the left (straight) leg trying to get right foot flat on floor  Pull up through body and put left hand (or elbow on outside of bent leg.  Twist body looking over right shoulder as far as you can  Hold for 15 – 20 secs, relax and repeat on opposite side | Aim to keep spine upright all through exercise  Try to keep both buttocks on floor otherwise rotating pelvis and not back |
| Cat stretch | Start on hands and knees with weight evenly distributed  Pull in your TA’s and abs towards your spine as you arch your back upwards like a cat  Hold the stretch for 10 – 15 seconds, relax and repeat twice |  |
| Child’s pose | On knees with toes flat on floor  Hands on floor in front  Move body weight back to sitting on heels  Drop shoulders and reach arms above head along the ground |  |
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