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This e-book summarises a blog post series originally published on <http://www.rowperfect.co.uk/> [when I owned that business] that Raf Wyatt wrote about rowing blisters and other 'hidden dangers' of rowing. I then created follow up articles on these topics and they're all included in this ebook.

- The Unseen Dangers of Rowing
- 3 Ways to Avoid Rowing Blisters
- Avoiding Rowing Blisters- The Answer is in Your Hands
- Avoiding Rowing Blisters - When Prevention is Better than Cure
- 6 Ways to Treat a Rowing Blister
- Slide Bites and Rowers Bum

The Unseen Dangers of Rowing

The news that Olympian rower Andy Holmes contracted the Weils disease that killed him through the blisters on his hands should concern all rowers and not just those of us rowing on dirty waterways. Look at the factors involved: Andy had exhausted himself and he had open wounds - sound like any rowers you know?

And while dying from Weils disease is a very rare complication of blisters there are other nasties out there and not all of them come from the water. Some like MRSA we carry around with us; others ranging from hepatitis A through to the common cold can be transmitted by skin contact making us all vulnerable.

Christchurch Girls High School (NZ) rowers were unlucky enough to be stricken by MRSA. One of the girls' had infected blisters on her hands that didn't respond to a course of antibiotics; she ended up in hospital and undergoing surgery for cellulitis – as did another of her crewmates... and another... One of them had nearly a year of physiotherapy treatment correcting the damage done to the tendons in her hands.

Am I scaring you?

As dire as the consequences of infection are, the prevention measures are simple.

Wash your hands, wash your hands, **wash your hands** and then just to make sure, WASH YOUR HANDS.

Can it be that simple?

Well, a teacher of a Girls High rival school told me about the hand-washing campaign they ran during the Swine Flu scare; the result was a 30% reduction in the number of absentees from normal. Yes, an improvement in attendances.

Think what having more of your rowers for more of the time could do for your training programme.

But you know this isn't just a casual flick under water – you need soap, friction and warm water and you should take 30 seconds to do it. Try it! 30 seconds is a long time – that's 'Happy Birthday' sung twice (Happy Birthday to me, Happy Birthday to me, Happy Birthday dear meeeee, Happy Birthday to me...and again...).

It's not that easy getting people washing hands for this long so Virginia Spoors who headed the rowing programme at Christchurch Girls High recommends these other actions:

Use a pea-sized amount of alcohol gel to clean your hands before and after rowing (this may sting a little!)

Wash scull and oar handles in a weak bleach solution once a week

Reduce open wound contact by taping blisters and other sores

Do all this and remember that getting enough sleep or rest and having good nutrition are just as important as practicing good hygiene.

And then of course, we could always work on not getting blisters...stay tuned!

3 Ways to Avoid Rowing Blisters

Rowers' blisters are caused by either friction forming a water blister or pinching forming a blood blister. There's something going on between your hands and the handle to give you blisters; we need to look first at what you're holding and then at how you're holding it to see how you're wounding yourself.

A better handle on rowing?

Whatever your choice of handles – and gosh! Aren't there a lot to choose from – make sure they stay comfortable to hold.

Keep handles clean

Tacky handles and greasy handles will keep you changing your grip as you row; greasy handles will have you squeezing to hold on; other lumps will give your hands something to rub against:

- Wash the handles after every outing; use detergent to get rid of the grease and a sponge or cloth for the dirt and store them somewhere where they can dry easily
- Wash or wipe your hands after applying sunscreen
- Lay your blades down so that the handles are out of the mud, off the little bits of gravel and sand, away from the broken glass, not anywhere where the geese have been

Keep up with the maintenance

Any loose flaps, any holes, any splits, any rough seams, even a change in texture will provide a ridge for your hands to rub against:

- Check your handles regularly for loose material that can be glued or rough patches that can be sanded smooth.
- Replace any grips that have holes or splits
- Fill and smooth chips or if they're big, replace the handle

Choose to suit you

Size matters as does surface texture

- Choose between large or small diameter – how big are your hands?
- Choose between hard and soft materials – what matters more: durability or comfort?
- Choose between textured and smooth – how much grip do you like to have? How rough is your water?

Just as an example, I prefer to row sweep with a wooden handle. About once a fortnight I give it a good clean using sand soap and water and follow up with a wire brush. I brush, quite vigorously in small circles, like brushing your teeth, up and down the length of the handle and finish up with a slightly fluffy surface. This provides good grip and especially when the water's rough and the handle wet.

Avoiding Rowing Blisters The Answer Is In Your Hands

So if it's not something on the handle rubbing your hands causing your blisters could it be your hands shifting, moving, creating friction? Or squeezing, pinching tiny folds of flesh (yes, even in the thinnest!) against the oar handle? Into the sculling grip?

Sculling or rowing, the best grip is light with your fingers loose and relaxed. You have leverage, modern oars and sculls are light and now that you've cleaned the grips there's no need to hold on tightly to control the blade.

Good rowing grip

Good rowing hands work lightly and separately.

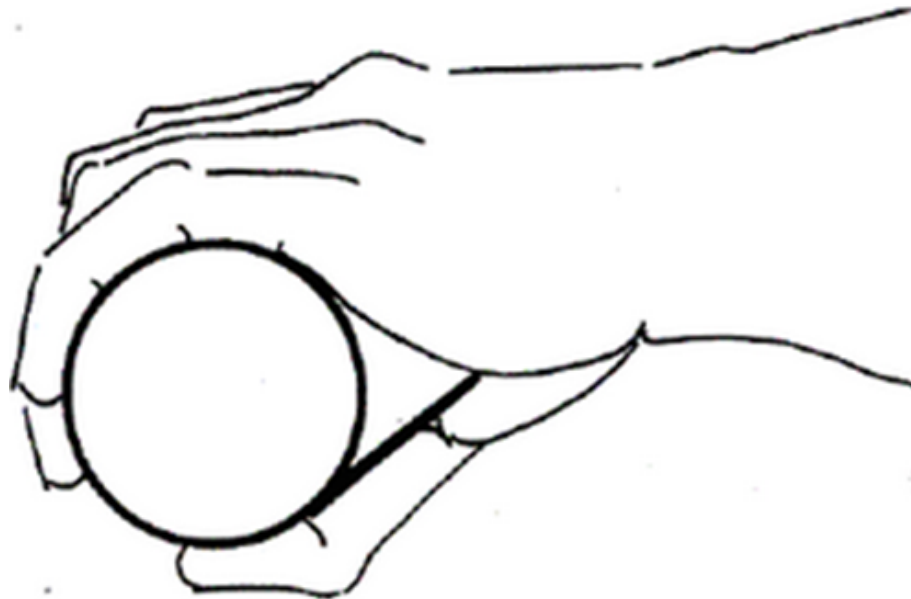
A good **outside** hand keeps the shape of a loose fist during the whole stroke (top knuckles horizontal with the wrist, palm free of the handle so that there is no gripping).

And its job is to

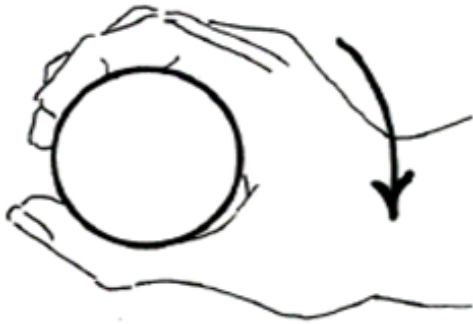
- Control the height of the handle
- Place the blade in the water
- Tap down to take the blade out of the water
- It does this by applying enough pressure on top of the handle.

And the inside hand?

A good **inside** hand also holds the handle in a loose fist during the stroke. Its only job is to **turn** the handle, feathering the blade just after the finish and squaring it up again just before the catch. Use your wrist: twist your wrist downwards to feather, roll it up to square.



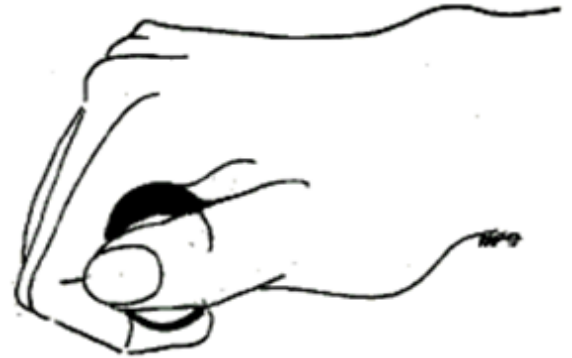
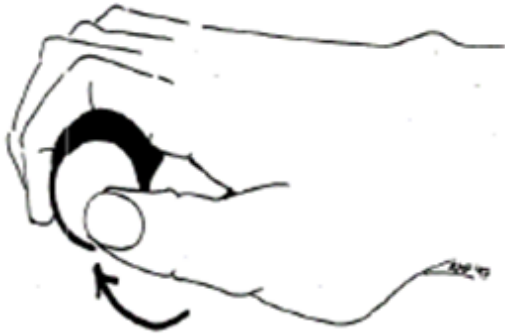
Outside Hand Grip In Rowing



Feathering And Squaring With The Inside Hand In Sweep Rowing

Good sculling grip

A good sculling grip also uses a loose fist; the difference is that when you're sculling you hold your thumbs on the end of the grip. Roll the grip out with your fingers to feather; back into your hand to square:



Finger Feathering And Squaring In Sculling

If your hands are big enough; if your handle is small enough you can also finger-feather when you're rowing. In practice, and especially for people with small hands, you use a combination of the wrist and finger movement. The best movement has the smallest wrist movement.

Getting rid of the tension in your hands will mean fewer blisters - yes, I did say fewer - we haven't eliminated them all but we do still have a few more tricks up our sleeves...

Avoiding Rowing Blisters When Prevention is Better than Cure

For when you really, really, really don't want blisters...

Rowperfect met up with Surgeon Philip Game at the Australian National Masters Regatta in Tasmania; he was really keen to show us how he looked after his hands. I should warn you that the methods he uses aren't for the more slapdash amongst us but they certainly are effective. Remember this is a man who relies on his hands staying sensitive, soft and dexterous; they are the tools of his trade.

You start with two rolls of tape, one wide, one narrow, and a sharp pair of scissors. The type of tape is critical: Philip's experimentation has come down to this brand, Leukoplast, this reference number, made in this country – beware all imposters!



Blister Tape 01524-66

It's a wrap

Starting on the back of your hand, at your first finger and wrap round the base of your finger, between your thumb and fingers, across the base of all your fingers and just under the first knuckle of your little finger, round your little finger and back to your first finger.



Leukoplast Blister Tape



Wrapped Hand

Nice and smooth now

Press your hands together firmly and smooth the tape down: make a second skin.

Snip, snap, just so...

Use the sharp scissors to make one or two cuts, in the webbing, down the side of each finger. It depends on how much room you have between your fingers: make two cuts (cut out a small rectangle) where the gap is large.



Snipping For The Fingers

Wiggle your fingers now

Smooth the cut edges down between your fingers.



Taped Back Of The Hand

Let's put a ring round it

Finally, use the narrow tape to wind round each finger (seam on the back of your fingers) to hold the tape in place.

Philip tapes his hands first thing in the morning and at least two hours before he races so that the tape has time to bed in and the adhesive time to adhere.



Thin Tape Winds Around Fingers

Have you got what it takes to be a surgeon?

I think most of us are going to need a friend for all that left-hand snipping!

6 Ways to Treat a Rowing Blister

What happens if despite your best efforts you finish the row with a new set of blisters?

Many are the theories and practices but here's what I do and what I advise my athletes to do:

1. The blister is still raised and filled with fluid. Use a sterilised needle (pour over boiling water or dip in meths) to pierce the blister and drain the fluid. Press the blister flat and apply some antiseptic cream. Cover with a band-aid that will protect it from being knocked but allow air to get in.
2. The top layer of skin on your blister has torn or been rubbed away leaving raw skin. Hold your hands in hot soapy water, as hot as you can stand, for as long as you can stand. This will clean the wound and also gently dry out the skin. Cover with a band-aid if necessary.
3. The skin surrounding the blister looks red and inflamed. Treat as above, repeating several times during the day. If after a couple of days it's still looking angry get treatment from a doctor.
4. The raw skin is cracked. Apply antiseptic cream (Vaseline also works) and a band-aid to keep the skin moist and to help it heal. I'd usually keep it moist during the day and leave it open to dry a little overnight.
5. The new skin has formed but the old skin is torn, ragged and hardening around the edge. Trim with sharp scissors or a razor blade (yes, I have seen teeth used for this operation but they're not really designed for it) until there are no flaps and the surface of your skin is uniformly smooth.
6. The blister is healed but has left a hard and raised callus. Use pumice, a file or sandpaper to reduce the thickness of the skin until the surface of your skin is uniformly smooth; this is easier after a few minutes soaking in hot water. This is really good for hand-maintenance when you have no new blisters as preventing callus build up is good. Because if you get a blister under a callus, it really hurts because it's deep in the skin epidermis.

Why not meths?

Sooner or later in your rowing career some sadist is going to promote methylated spirit as the cure-all for blisters – here are the reasons you should stop listening to them:

- Meths will kill living tissue; that's not a good way to promote healing
- Meths dries out your skin very quickly and is likely to cause it to crack before it heals. These cracks are harder to heal than the open skin – that's longer rowing with damaged hands.
- Meths makes the top layer of your skin hard and unyielding; I've seen blisters forming under the hard layer which go deeper and are more painful.
- Meths stings like billy-o – haven't you endured enough pain already?

Ok – how about gloves?

Well, you could but you're going to have to be extremely nice in your requirements: they will need to be tough and supple, thin enough to feel the handle, tight enough to fit your hands well, stretchy enough to allow movement. What you don't want is the glove material bunching up giving you something else to pinch your skin against, something else to cause blisters. Nor do you want anything to make your hands sweat so that they start slipping inside the glove.

No really, you're better off conditioning your hands and accepting the odd blister along the way.

Slide Bites and Rowers Bum

Slide bites or how to spot a rower walking down the street...

Ok, picture this – it's summertime. You're walking downtown and ahead of you is a girl (or guy – you choose): tall, bronzed, lean, athletic-looking...she's looking good and you cast your eye downwards to the flick of the hem of her skirt (he's wearing shorts), down the back of her legs... and ah-ha, there marring this piece of perfection, there sparking that burst of recognition, there they are... the scars, the scabs, perhaps even the gaping wounds of the slide bite.

It's a good phrase that: slide bite, giving a good picture of a bit of the boat attacking you and doesn't it just feel like that sometimes? You shove that seat back, push your legs out to full stretch, put all that power into your stroke and... aaargh! Jab! Right on the back of your calves and there are how many more strokes left in your training session? And how many times will your coach be telling you that you need to push your legs harder?

Fixing the slide bite problem

Your short term solution could be to move your foot-stretcher closer to the stern or to raise your feet but then your coach would probably have words about your shorter stroke or the angle of your catch. Next time, you might remember to wear long socks, calf skins or bring some tape to wrap around the offending edges, or a pair of cut-down socks to slide up your calves.

In the meantime, just as it was for those blisters you'll need to make sure that both your wounds and your slides are kept scrupulously clean. Leave them open and on display when you're out of the boat but keep them covered and padded when you're rowing – let's hope your programme calls for a mix of boat types so that you're not always hitting the same places.



What's biting you?

Let's take a look at what's biting you. You have a metal extrusion that's been cut into lengths to make up the slide; it has a channel for the seat to run in and is slotted underneath to enable you to adjust its position on the deck. Its end has been plugged with a plastic stop designed to stop your seat coming off the end; if you're lucky the stop has also been shaped to go around the front edge of the slide. If not, then there's nothing coming between you and that sawn-off metal edge.



Slide Bites On Rower's Calves

Back in the days when time wasn't worth quite as much money that sawn-off edge used to be filed smooth and the runner underneath chamfered back so that it sloped away from the front-stop [see Carl Douglas slides in the picture]. You even had it coated with lacquer to make sure there were no rough edges. Have a look at your boat now; run your finger... careful... across the front of your slides – have they been cut square or are they shaped? Are they rough or smooth? Does the front-stop fit the channel; does it have a tongue wrapping round – could it be changed to one that does?



Well Made Boat Slides

So onto your backside

Rower's bum is another painful condition that only comes about because equipment and soft body parts come into close contact. I first experienced it when Janousek changed their seat design about 15 years ago and I found that because I slump at the finish and my 'tailbone' drops downwards, this rubs against the slightly higher seat back.

It happened again with a Filippi single seat a few years later but this time at the front where the back of my thighs pinched against the front of the seat. Equally painful. I struggled on trying to get used to the seat, but eventually went back to the agent and he replaced it with a padded-top seat. After which, no problems at all.

The treatment is based around careful application of micropore tape. Tear a short strip and bond it onto the skin at least an hour before you row so it has a chance to stick on firmly. By the way, it's incredibly hard to stick tape onto your own derriere - try looking in a mirror backwards or looking upwards back between your legs. Just like Twister! So ask a friend if you need help!

Boat design improvements are needed

But this is fiddling round the margins. Isn't it time to hand this one back to the boat-builders? We've been rowing on sliding seats for how long and they still haven't worked out that legs get pushed down onto the ends of the slides? Yes, in small boats you do run out of stateroom but fours, eights? Let's move those slides apart so they are wide and mounted on the sides of the boat so and your legs fit flat between them. It's been done before [such as in my Filippi wing rigger single] but it's an idea that doesn't seem to have lasted – why's that, do you think?

Authors Biography

Raf Wyatt is a consulting rowing coach and has worked in New Zealand, Holland, UK and Switzerland.

She provides advice by Skype and email for club rowing coaches on how to improve their own coaching skills, training programmes and technique.

She lives in Central Otago, New Zealand.

Rebecca Caroe is a masters coach and athlete. She learned her trade in the UK and now lives in New Zealand running Faster Masters Rowing which sells training programmes and educational products for masters athletes.