



NUTRITION & INJURY PREVENTION WORKSHOP

 **SOUTH32**
ROTTNEST
CHANNEL SWIM
2024





Dr Nat Benjanuwatra & Dr Grant Landers

Hypothermia & Pulmonary Oedema

School of Human Sciences, The University of Western Australia

2024 South32 Rottnest Channel Swim





Perfect Conditions?



Wind direction

Currents

Water temp

Record times

2024 South32 Rottne Channel Swim



"Not So" Perfect Conditions



Event cancelled

2024 South32 Rottnest Channel Swim





- ❖ **How long will you be in the water?**
- ❖ **What are the consequences?**
- ❖ **What can we do to prepare?**





Hypothermia

- ❖ **Body temp ~37°C**
- ❖ **Hypothermia body temp drops below 35°C**
- ❖ **The KEY FACTORS are:**
 - ❖ **TEMPERATURE of the water**
 - ❖ **TIME in the water**
 - ❖ **INSULATION (i.e. body fat)**

Spend long enough immersed in the channel & anyone will eventually become hypothermic





Hypothermia

- ❖ Lots has been done to prevent hypothermia BUT...
- ❖ Hypothermia is still the most common medical issue on race day
- ❖ Don't be complacent – what are the signs and symptoms?



mild Hypothermia

- ❖ **Apathetic**
- ❖ **Lack of coordination**
- ❖ **Slurred speech**
- ❖ **Swim style and/or Stroke rate not right**
- ❖ **Disinterested in Conversation**
- ❖ **Loss of sense of humour**

Recognise & intervene here to improve safe outcomes

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Severe Hypothermia

- ❖ Confused
- ❖ Nonsense conversation
- ❖ Disorientated eg swimming off course
- ❖ Eventual loss of consciousness & death by drowning

Failing to recognise here & the swimmer is a real risk of a poor outcome



Management of Hypothermia

- ❖ **Support crew must actively monitor and intervene early**
 - ❖ Swimmers don't know they are hypothermic
- ❖ **Remove swimmer from the water (gently)**
- ❖ **Minimise further heat loss**
 - ❖ Dry, insulate, windproof blanket etc.
- ❖ **Refuel**
- ❖ **Contact Channel Swim Base urgently for medical assistance**



Prevention of Hypothermia

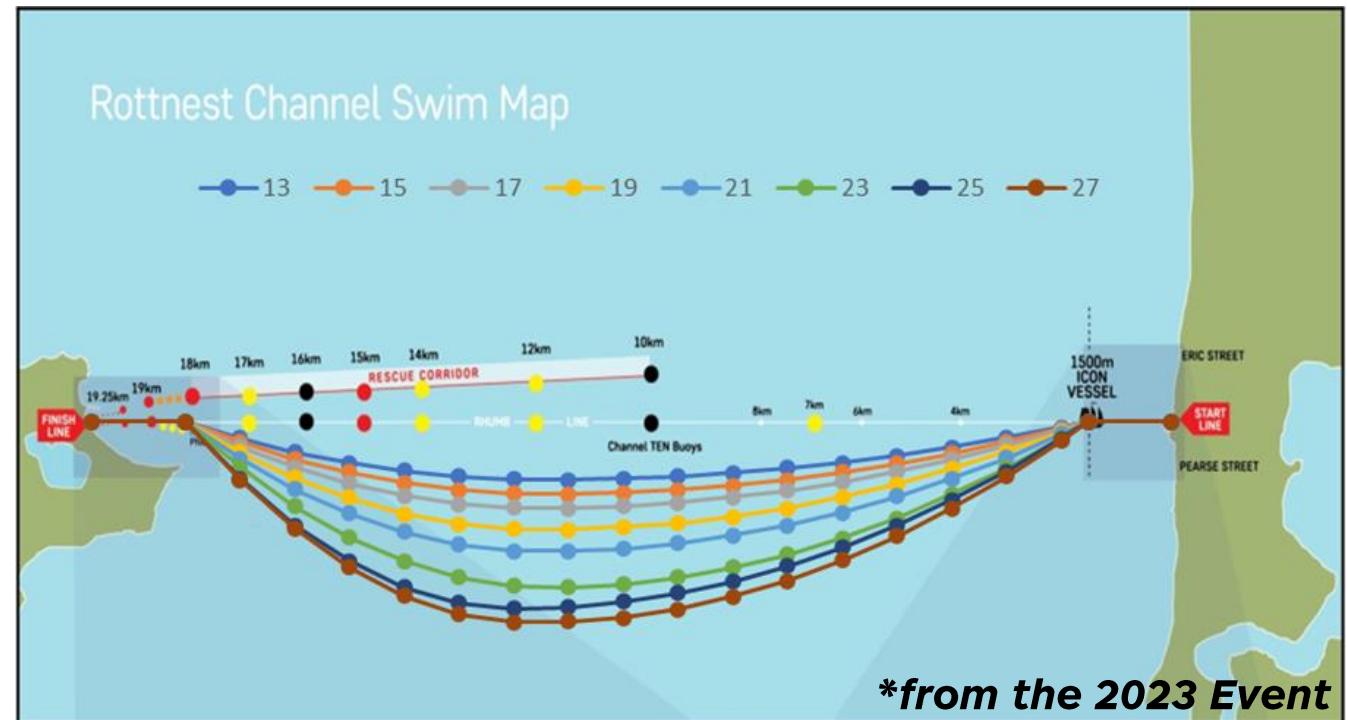
- ❖ **Minimise time in the water!**

- ❖ **Training**

- ❖ **Route optimisation**

- ❖ **Acclimation**

- ❖ **Feeding plan**





Prevention of Hypothermia

- ❖ **Recognise the risk factors**
 - ❖ Slow swimmers
 - ❖ Thin swimmers
 - ❖ First time
 - ❖ Tough conditions

- ❖ **Build up your insulation**
 - ❖ Consult a dietitian
 - ❖ Seals are suited to open water swimming

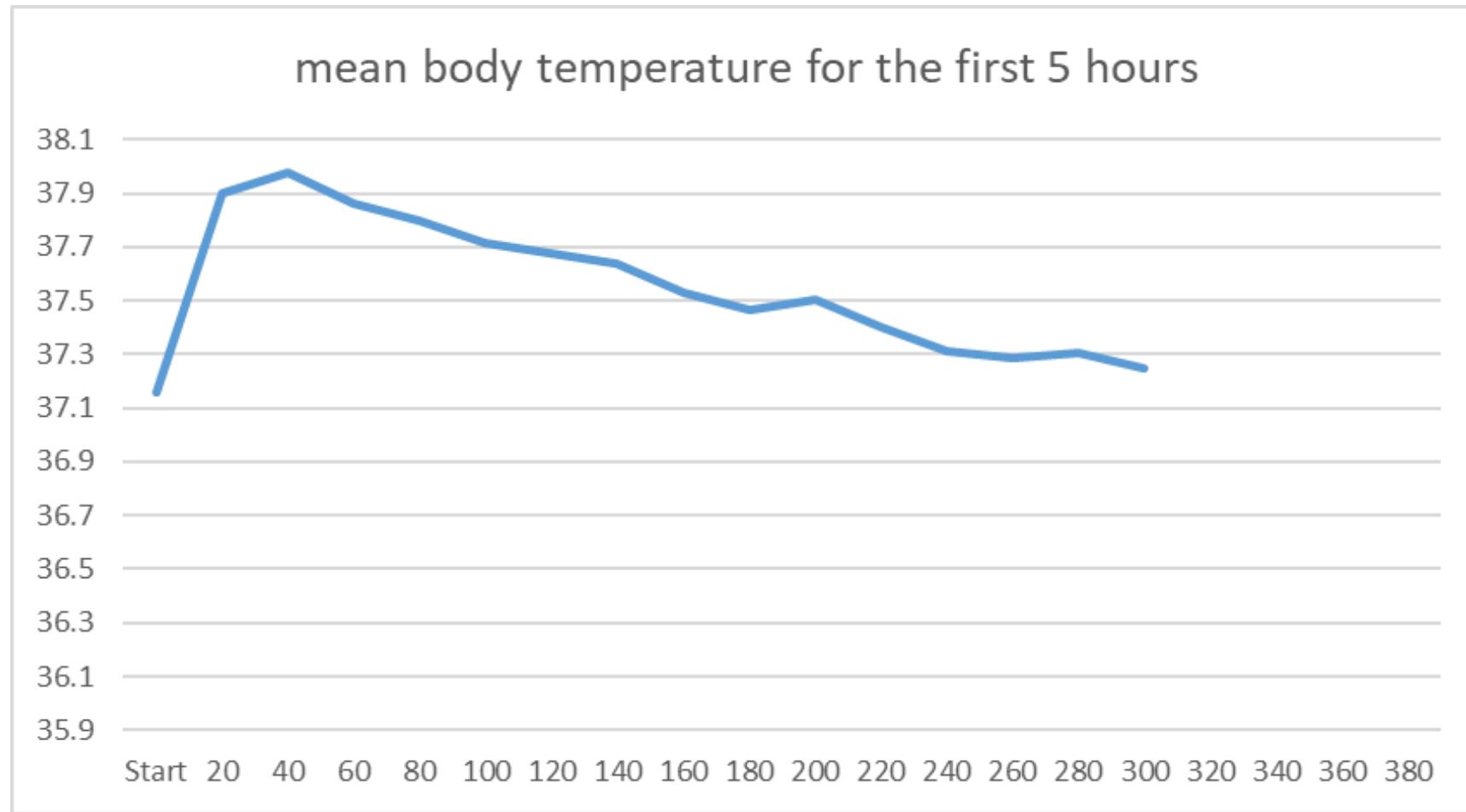
- ❖ **Trust your skipper & support crew to think for you**

- ❖ **Your skipper takes ultimate responsibility for your welfare**





So what happens during the swim?

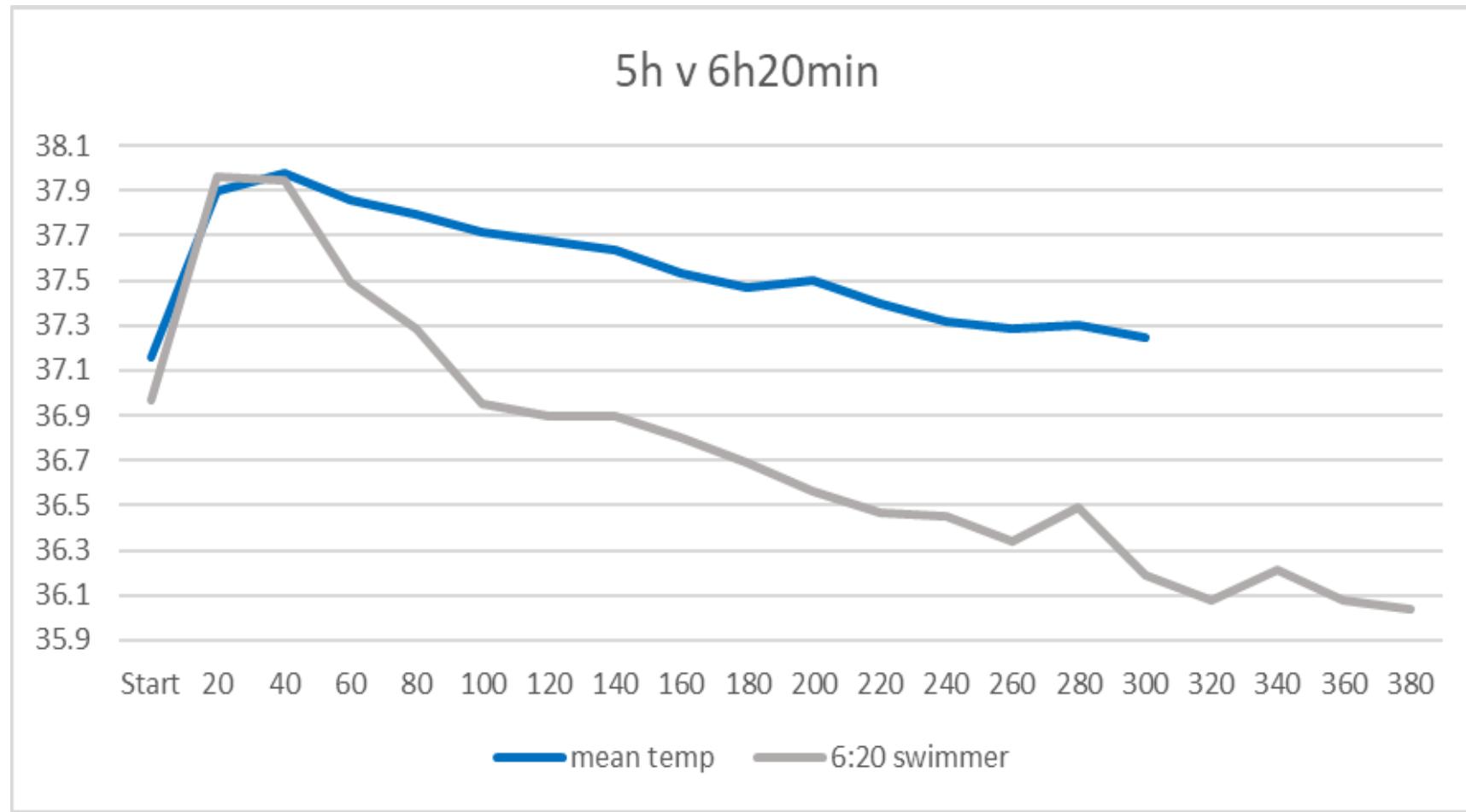


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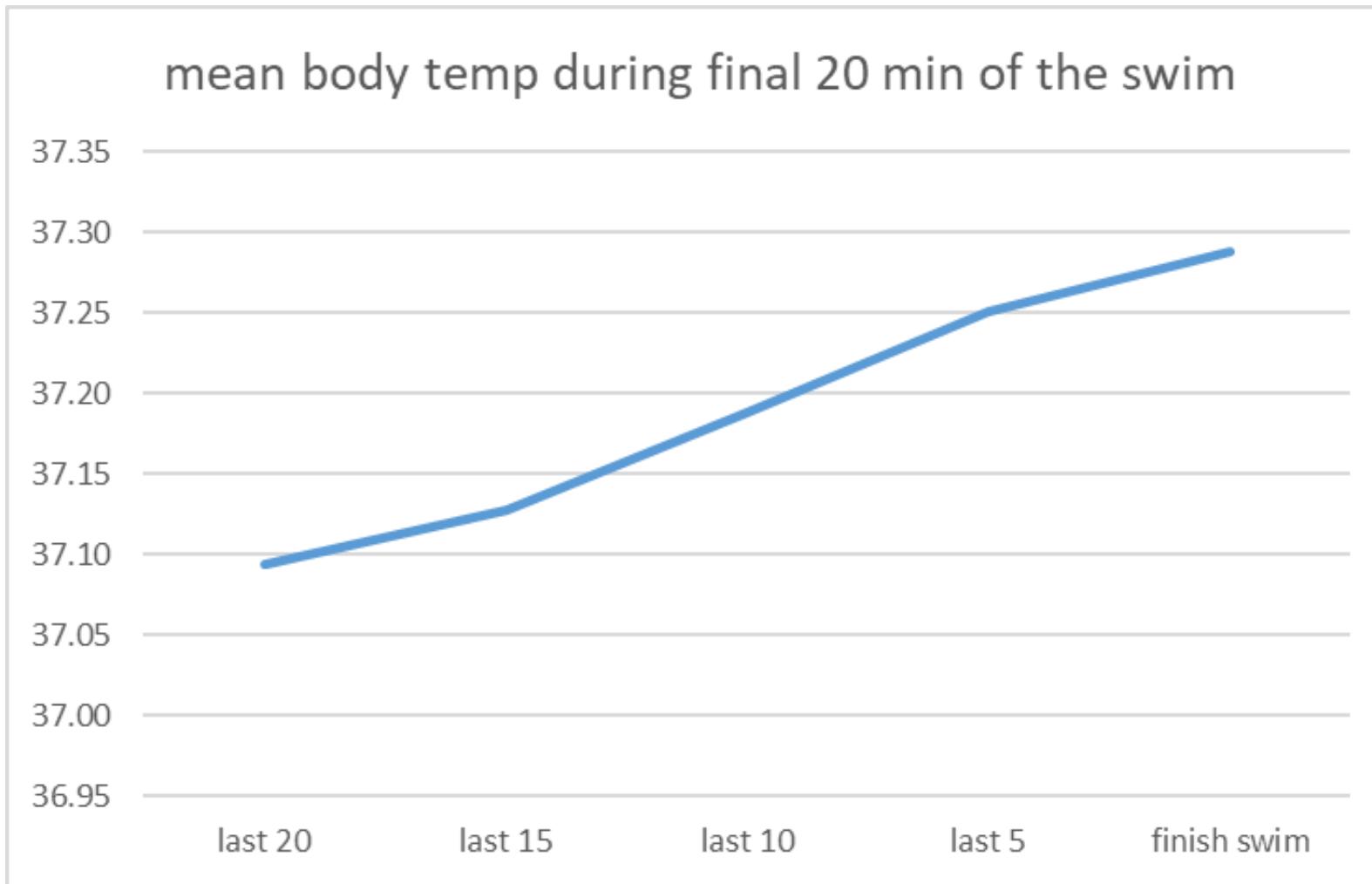


So what happens during the swim?





So what happens during the swim?

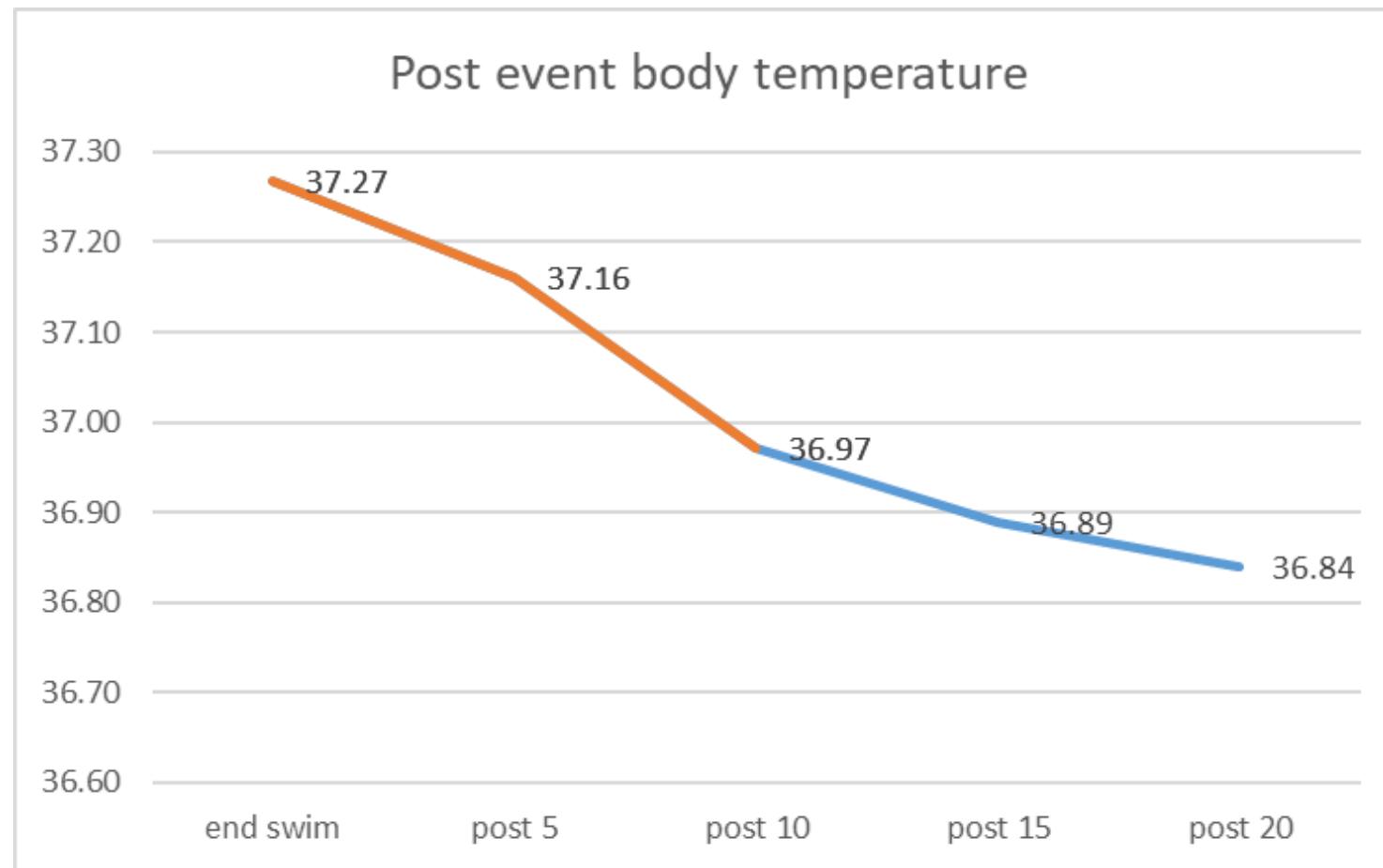


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So what happens after the swim?





What about Pulmonary Edema?

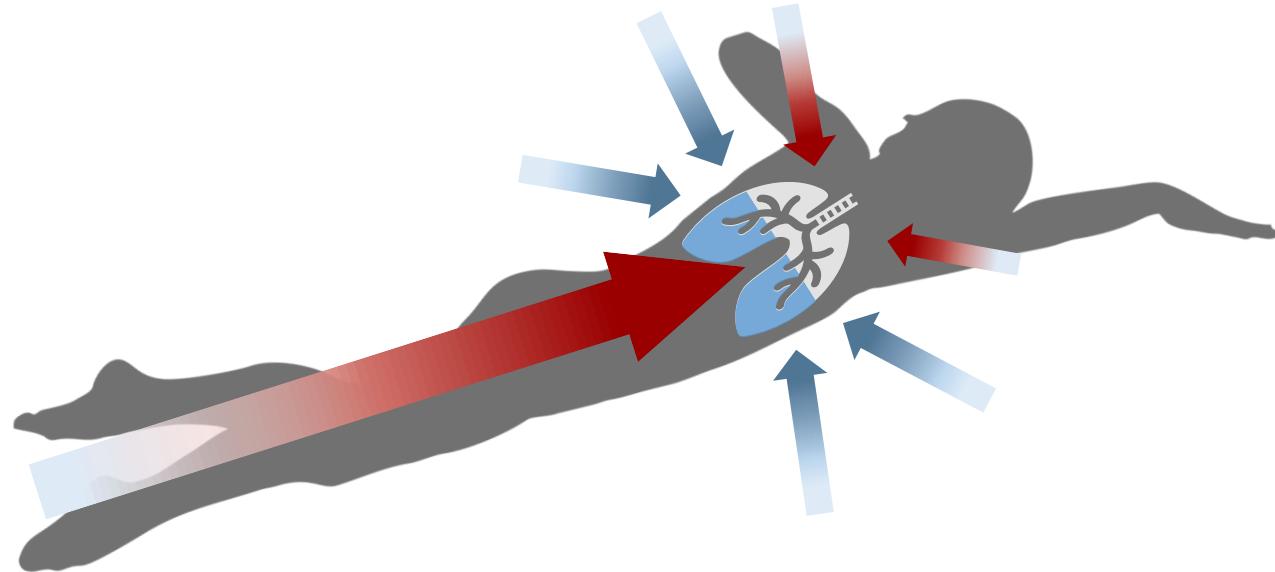
- ❖ Pulmonary oedema is fluid collecting within the airspaces (alveoli) of the lungs causing low blood oxygen levels
- ❖ Documented cases are rare, **but SIPE is often dismissed until it becomes serious!**

“...the doctors were literally Googling it. I'm sitting there watching all these medical professionals Googling”



Swimming Induced Pulmonary Edema (SIPE)

Immersion + Posture + Exertion





What about Pulmonary Edema?

- ❖ **Reported risk factors include:**



High blood pressure



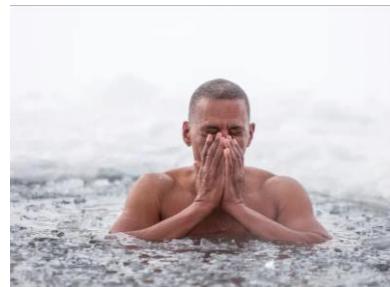
Female



Smaller lung capacity



Fish oil use



Cold water



Swim distance

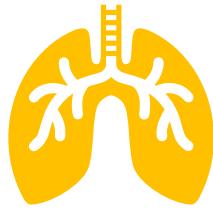


Hyper-hydration





Typical Symptoms of SJPE



Shortness of
Breath



Unexplained
cough



Wheezing/
Crackling sound



Chest pain

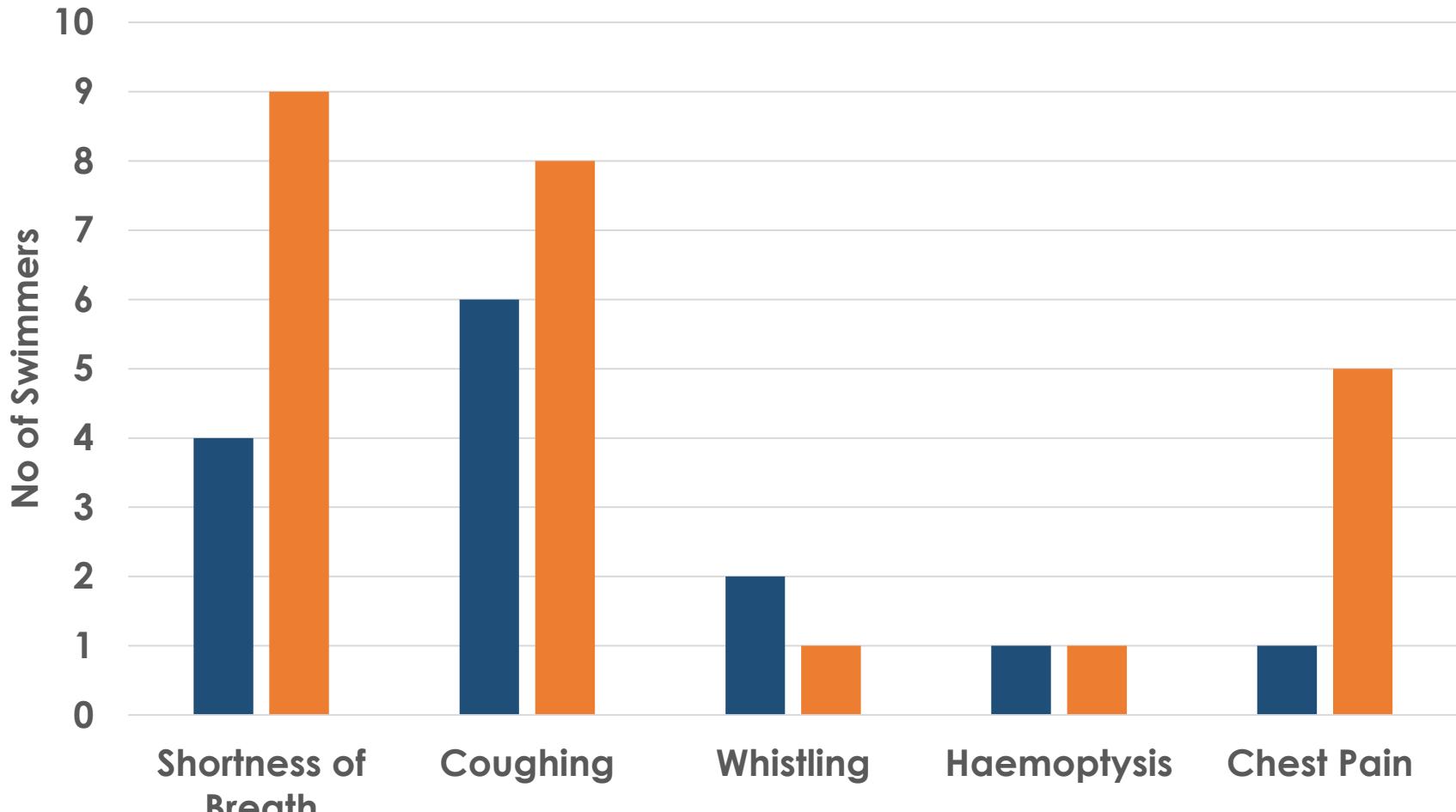
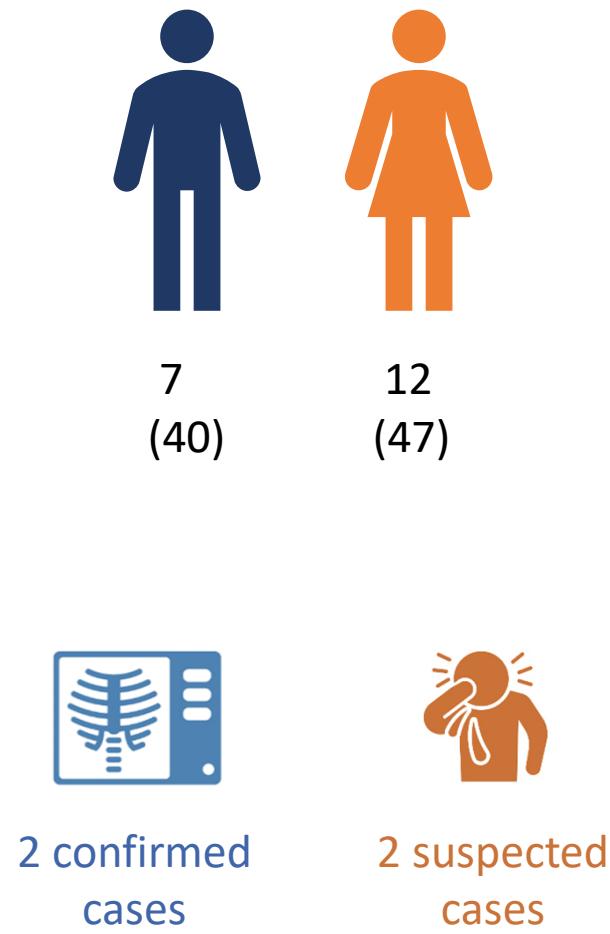


Hemoptysis

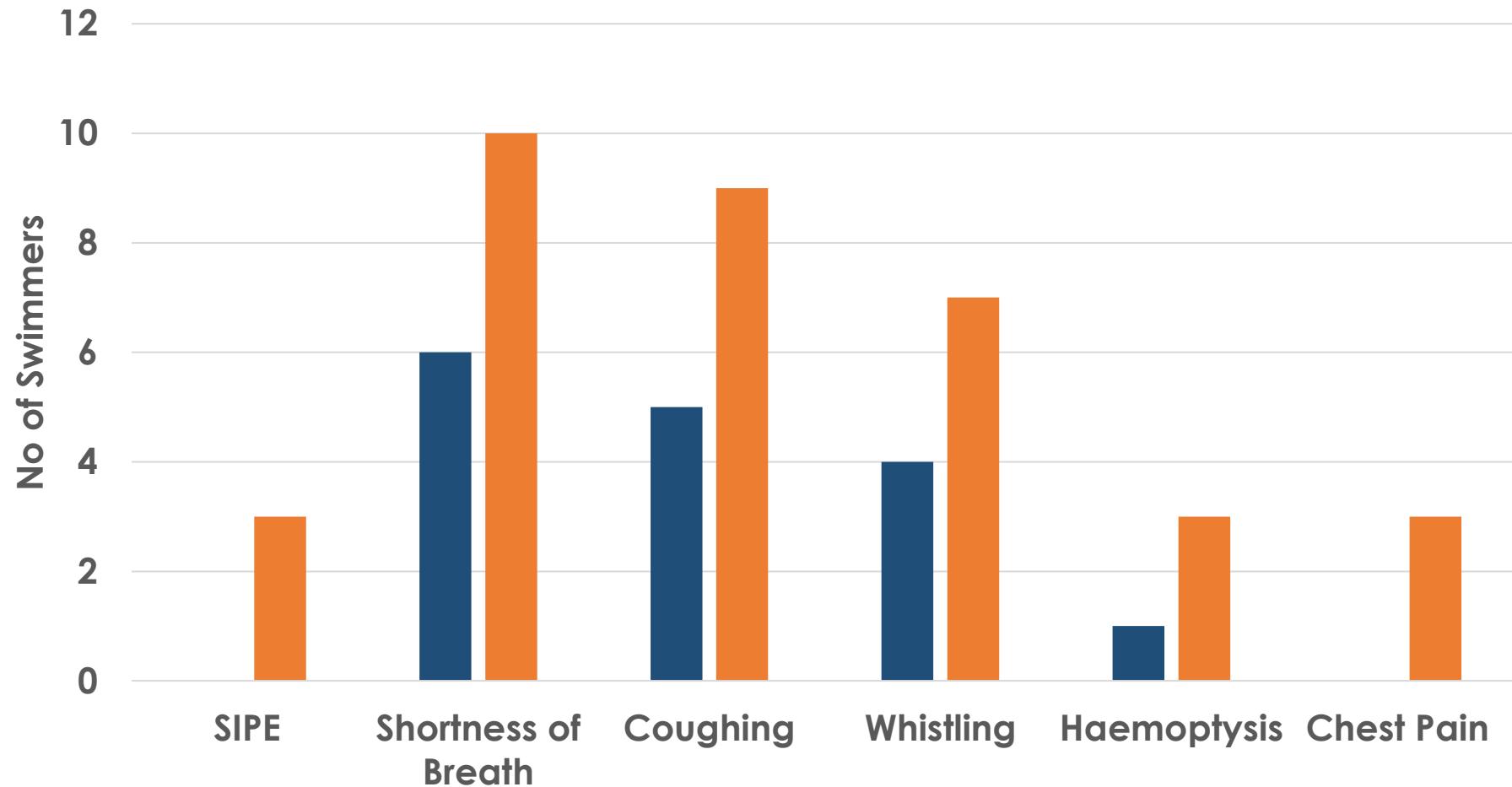
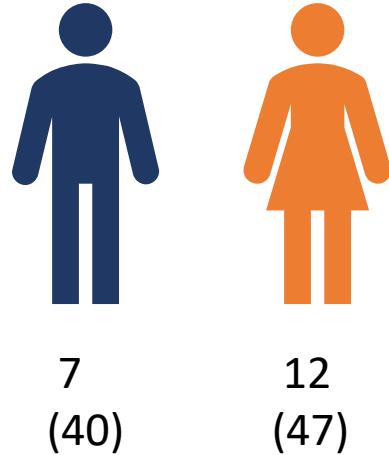


Fatigue

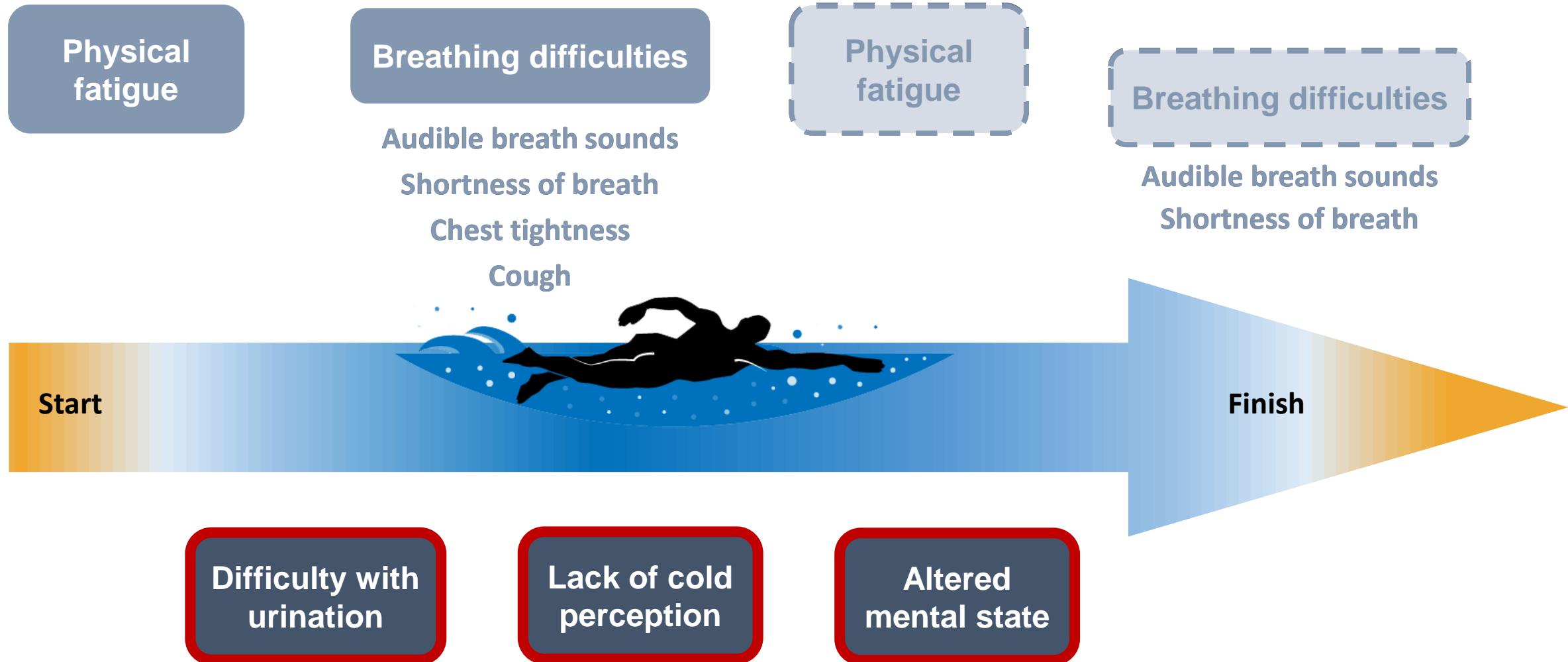
No of Swimmers with Symptoms of SIPE during or after the 2023 Event



Past Experiences among the 2023 Event Participants with symptoms



Evelyn's Research (2023): How symptoms develop and progress



Evelyn's Research (2023): Reluctance to seek help!

“...must have been the personal accomplishment, because if it had been a training swim [...] I would have got out.”

“You've ploughed a lot of money into this, [...] time away from my kids, from my husband. Because it's kind of three years of training really for one day. [...] they've [support crew] given up their day. They really want you to do it and you want to do it. You have that [...] drive to keep going.”

“you just have to be a bit tougher, this isn't meant to be easy, you just have to try a bit harder.”

“I probably should have pulled out earlier, but it wasn't strong enough symptoms for me to understand what was going on and the level of, how do we say, the fine line I was weaving to, you know, could have gone south pretty quickly in a different scenario.”



What about Pulmonary Edema?

- ❖ Pulmonary oedema is fluid collecting within the airspaces (alveoli) of the lungs causing low blood oxygen levels
- ❖ Documented cases are rare, **but SIPE is often dismissed until it becomes serious!**

“...the doctors were literally Googling it. I'm sitting there watching all these medical professionals Googling”



Evelyn's Research (2023): Factors contributing to decision making:

- ❖ Not wanting to inconvenience others or let others down
- ❖ Tendency to downplay symptoms.
- ❖ Competitive nature of the event – pressure to finish.





*Register your details to stay
up to date with the UWA
SJPE Study*



2024 South32 Rottnest Channel Swim





Julian mills

Preparation for the Big Swim

2024 South32 Rottnest Channel Swim





Background



Background

- ❖ 21 years of involvement having started as team member in 2002
- ❖ Ten solos
 - First solo over 7 hours – Best 5:36
 - 2 x 25km P2P
 - 2006 Cancelled RCS, 2018 Cancelled PTB
 - Out of Event Crossings
- ❖ 2 x Duo, 6 team crossings plus one team DNF due to weather
- ❖ Skipped 7 times in race and 4 times Out of Event
- ❖ Manhattan New York 20 Bridges





The Lead Up





Prepare Your Mind

- ❖ The hardest part is deciding to do the swim, making the commitment and dedicating the time to the training
- ❖ Be vocal, back yourself into a corner
 - Tell everyone you are doing it
- ❖ Then commit to training

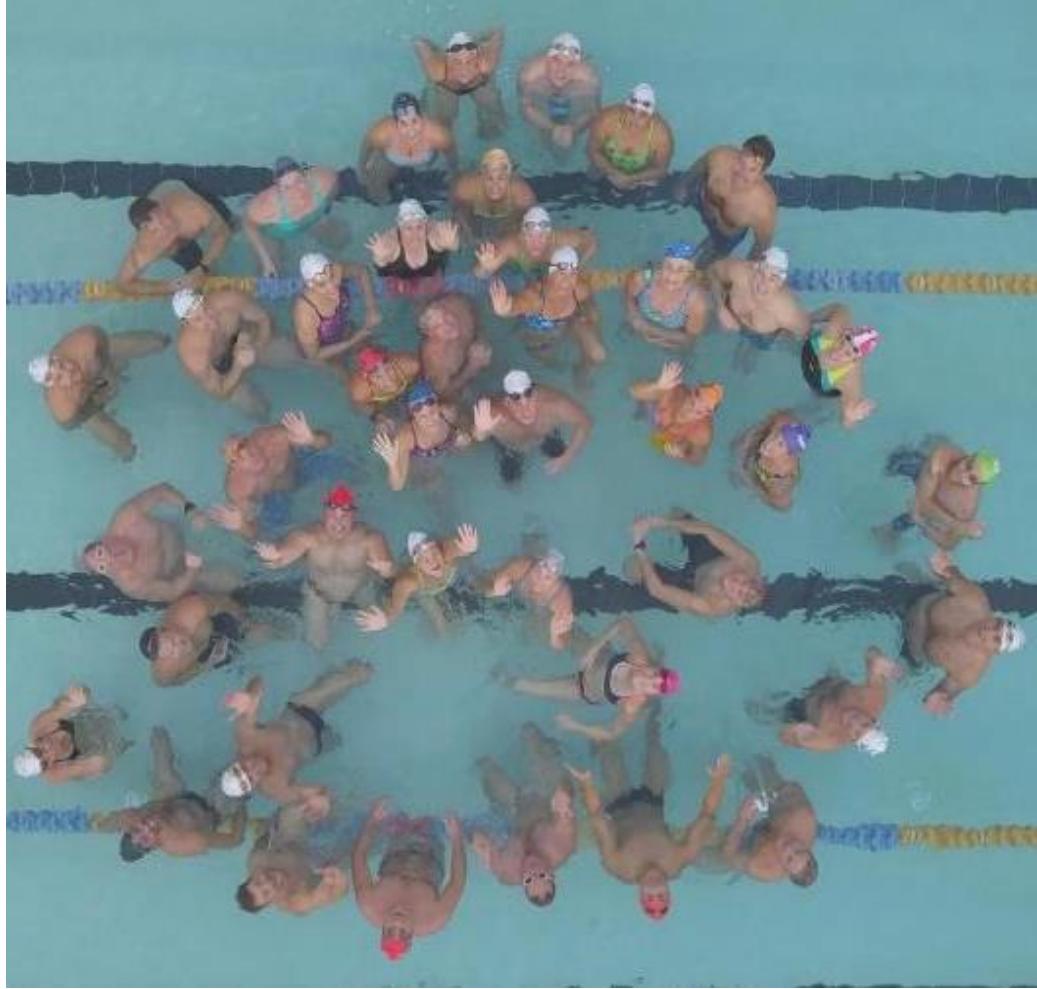


Prepare your Body

- ❖ Join a Squad
- ❖ Make sure you do ocean/river swims
 - Get used to swimming without a dotted line and experience waves, salt and stingers
 - Organised swims are good (OWS, surf clubs)
 - 10k qualifier – try and get it over and done with and try to do more than one
- ❖ Start training at least 3 months out
- ❖ The key goal of training is to find your “Rotto Pace”



Join a Squad or a Pack



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Acclimatise Yourself





Acclimatise Yourself



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Avoid Mental Harm

- ❖ Prepare yourself - training will be time consuming
- ❖ Expect to be tired and grumpy
- ❖ Clean up your act - vices should be foregone
- ❖ Overseas holidays may make training difficult
- ❖ Be mindful of others - Appreciate your family's patience



Avoid Race Day Stress

- ❖ Lock down logistics well in advance
 - Skipper/Boat
 - Paddlers/Canoes
 - Food, drink, medication, music
- ❖ To “fast suit” up or not?
- ❖ Transport and Support at Cottesloe/boat
- ❖ Communication reduces stress
- ❖ Support/Accommodation at Rottnest
 - Pack a post swim bag





make a Plan

ROTTNEST CHANNEL SWIM 2020

1 Saturday 23 February 2019

1.1 BOAT

Time	Comments
4.15am	<ul style="list-style-type: none">• Oliver and Charlie to boat.• Boat leaving Claremont Yacht Club at 4.35am
4.50am	<ul style="list-style-type: none">• Jane and Julian to beach with Sally and Ray
5.30am	<ul style="list-style-type: none">• Position boat in holding area, 1000m mark, (orange buoy), at southern side of swim channel
5.45am	<ul style="list-style-type: none">• 1st wave of solo swimmers (champions of the Channel gold caps) start
5.50am	<ul style="list-style-type: none">• Julian in 1st wave of solo swimmers (white caps Wave A) start• Julian to wear cut-out red cap over white cap to help identify.
6.00am	<ul style="list-style-type: none">• Jane meets up with Julian at 500m mark, (yellow buoy), southern side of swim channel
6.15am	<ul style="list-style-type: none">• boat moves in to meet up with Julian and Jane.• Plan is to not progress past last red buoy until this has been achieved.• Boat will have large pirate flag to help identify.

1.2 BEACH

Time	Comments
4.50am	<ul style="list-style-type: none">• Julian to Jane to drive to beach.
5.00am	<ul style="list-style-type: none">• Julian, Sally arrive at beach to do zinc cream & wool fat. Jane arrives at beach.• Meeting place north of Indiana's, north of road down to beach, on tiered grass, southern aspect.
5.35am	<ul style="list-style-type: none">• Jane to head to paddle craft departure point (southern)
5.50am	<ul style="list-style-type: none">• Start of wave A, after gold caps and wave A white caps, (ours is 3rd wave off beach)• Sally taking beach bag home, to be collected by Julian on return

1.3 SWIM

Time	Comments
Feeding	<ul style="list-style-type: none">• Timing/ feeding- rotations• 30mins- drink -room temperature• Two-minute warning to Julian by Jane• See Fee Schedule
Phillip Rock	<ul style="list-style-type: none">• Boats peel off. Swimmer & paddler continue
19.25km	<ul style="list-style-type: none">• Paddlers peel off. Swimmers continue alone to finish
Rottnest	<ul style="list-style-type: none">• Charlie and Oliver meet Julian and Jane at finish with bag.• Team meets at finish line• Much rejoicing



Plan Your Feeds

Time	Elapsed Time	Approximate distance	Julian	
			Feed	Additional
5:50 AM			<i>Depart Beach</i>	
6:20 AM	0.50	1.8km	Electrolyte	
6:50 AM	1.00	3.6km	Electrolyte /Carbo Shot	
7:20 AM	1.50	5.4km	Electrolyte	
7:50 AM	2.00	7.2km	Electrolyte /Carbo Shot	
8:20 AM	2.50	9km	Electrolyte	
8:50 AM	3.00	10.8km	Electrolyte /Carbo Shot	Neurofen
9:20 AM	3.50	12.5km	Electrolyte	
9:50 AM	4.00	14.2km	Electrolyte /Carbo Shot	Maybe a choccy
10:20 AM	4.50	15.8km	Electrolyte	
10:50 AM	5.00	17.3km	Electrolyte /Carbo Shot	Mother
11:20 AM	5.50	18.7km	Electrolyte	
11:50 AM	6.00	Finish		Beers

Rottnest Swim – Feed Plan

Time	Distance	Drink	Food	Other
0:30		N/A		
1:00	~3.8km	Gatorade Mix		
1:30	~5.7km	Gatorade Mix		
2:00	~7.6km	Gatorade Mix	Date Slice	
2:30	~9.5km	Gatorade Mix		
3:00	~11.3km	Gatorade Mix	Date Slice	Nurofen x 2
3:30	~13.1km	Gatorade Mix		
4:00	~14.8km	Coke		
4:30	~16.4km	Gatorade Mix	Date Slice	
5:00	~17.0km	Red Bull (Wings)		
5:30	~18.6km	Gatorade Mix		
6:00		Coke (if necessary)		
6:30		Gatorade Mix		

*Note: Coke drink to be at approximately 15km (or closest stop to it). Red Bull to be one hour after with Date Slice in between.





Don't Get Weather Anxiety

2003 – Don't Worry this won't happen again





You Can't Do Anything About It

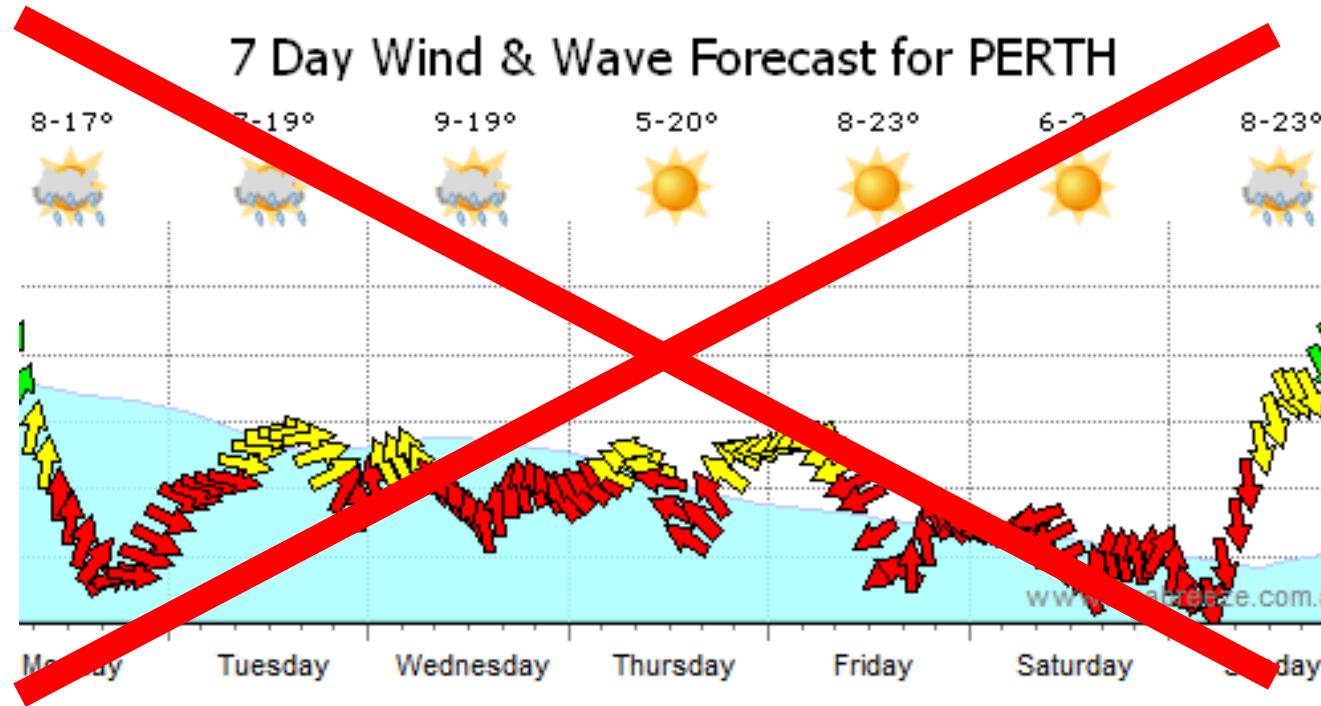


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Forecasts are Usually Wrong





The Big Day



Anxiety Prevention - The Beach



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Don't mess up the Meet

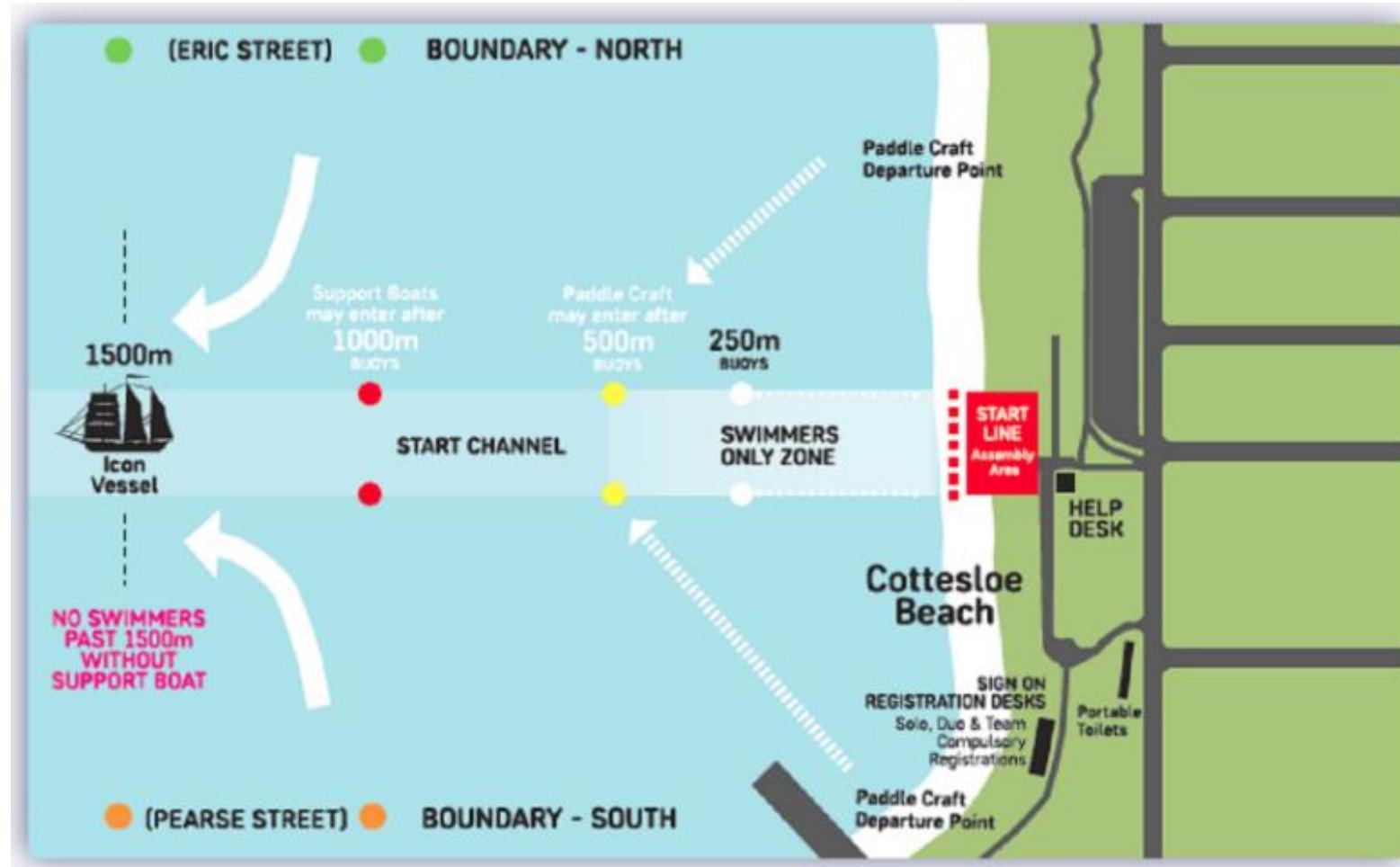


2024 South32 Rottnest Channel Swim





Avoid Boat/Paddle meet Stress



*from the 2023 Event





Rash and Sun Protection



2024 South32 Rottnest Channel Swim





Rash and Rub Prevention



❖ Pre Swim

- Taper and Carbo load in last few days – its as good as life gets!
- Big meal in morning – but try before
- Protect against sunburn, chafing and seasickness

❖ During Swim

- Set a feeding schedule (maximum 30 minutes)
- Consider Medication – seasickness, stingers and soreness
- Make sure crew only tells you precisely where you are
- Get times for each kilometre swum





Swim Nutrition - Nice and Simple



2024 South32 Rottnest Channel Swim





Sickness Prevention

Anti-Histamine for
Stingers



Kwells for
Seasickness

Zofran for last resort

Anti Inflammatories
for soreness



Why Bother?



Such a Great Feeling



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The Future



2024 South32 Rottnest Channel Swim





The World is Your Oyster



2024 South32 Rottnest Channel Swim





Good luck!

Further Questions: jrsmills@iinet.net.au



The background of the image is a deep blue underwater scene. Sunlight filters down from the surface in bright, glowing rays, creating a warm glow at the top center. The water is filled with small, white, rippling reflections. The overall atmosphere is serene and aquatic.

Thank you



ROTTNEST IS



ENGINE

VENUES WEST

