HOME™ & DRY

NO MORE RIVER DEATHS

WEST MERCIA SEARCH & RESCUE

A free course in water safety for all ages

We are a search & rescue team which has spent a lot of time looking for people who have fallen in to rivers

We want to raise awareness of the risks of working, playing and walking near water, so everyone ends the day home and dry

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A free course in water safety for all ages

Our thanks to West Mercia Police, The Royal Life Saving Society and Aquapac for their help in making this course possible

Supported by

West Mercia POLICE

ROYAL LIFE SAVING SOCIETY UK

Shropshire

aquapac

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Welcome to the course

During this course you will learn about:

Drowning

Water and how it behaves

Hazards in water

Safety precautions

Rescue techniques

Resuscitation of the drowned person

and you can print yourself a free certificate.

Let's get started...

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Drowning

Drowning can be described in simple terms as somebody stopping breathing because their body senses that they are beginning to take water in to their lungs, and it automatically shuts down their breathing completely.

This can then lead to loss of consciousness quickly.

A lack of air in the lungs leads to the brain and heart being starved of oxygen, and this causes death.

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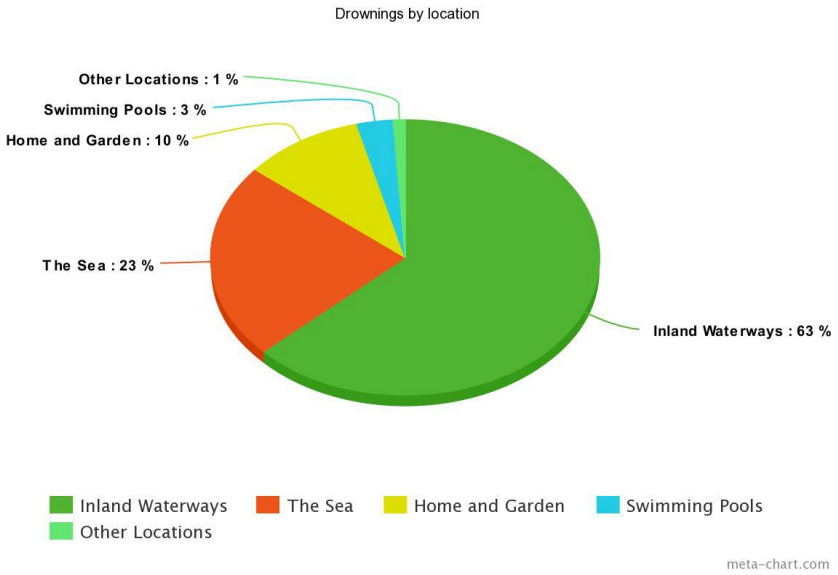
Drowning

Drowning is the third biggest cause of accidental death in the world, and in the UK it kills between 450-600 people every year.



78% of all drownings in the UK are males, with the age range of 18-60 being most at risk.

August is the peak time for drownings in the UK, when people are on holiday and swimming in open water.

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Drowning

Drowning does not always result in death.

If a person can be pulled from the water, supported with their head above water, or resuscitated when they fall unconscious then the drowning process can sometimes be stopped.

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How does your body react

Drowning is a process of 3 stages, and is quiet and difficult to spot.

If you see someone wildly splashing and shouting "Help", they're not drowning...
but they might be very soon!

Drowning doesn't usually look like this

How does your body react

Stage 1:

Most people who are struggling in water will hold their breath, or take little gasps when they think their head is above water.

If they inhale a little water they will generally cough it up or swallow, and may inhale even more water.

They become weak quickly and tend to do a doggy-paddle with their mouth at or below the water line.

You generally won't see much splashing.

If you're reading this on an internet-connected device, click here for a video showing 3 children being rescued just after the drowning process has started.

How does your body react

Stage 2:

If you inhale enough water, your body can react by clamping your vocal chords shut.

This stops you inhaling any more water, but also stops you breathing and being able to shout for help.

This is why drowning is a quiet process.

The technical name for this is laryngospasm (a spasm of your larynx), and it can only be reversed if you are pulled from the water or you fall unconscious.

Since you have stopped breathing, your muscles will very quickly tire, and your brain will start to shut down to preserve its own oxygen levels.

Swimming is now almost impossible

How does your body react

Stage 3:

The body has now completely shut down due to a lack of oxygen. It will not be able to restart itself without CPR (chest compressions and rescue-breaths).

This is why all lifeguards and rescue teams practice CPR so much, and why we will cover basic CPR techniques later in the course.

In some cases there is still a chance of saving the drowned person by "jump starting" their own body's systems quickly enough.

The good news is that CPR is really easy and anyone can do it.

How does cold affect the body

Have you ever stepped in to a cold shower by accident, or had a drop of cold water hit the back of your neck?

The first thing you do is take a gasp. Everyone does.

The average temperature of outdoor water in the UK is only 11C. That's cold enough to produce an effect in your body called "*cold water shock*": exactly like stepping in to that cold shower.

Now imagine if you've fallen in to a river and taken that gasp underwater. You'll breathe in water, and start choking. You might even find your vocal chords clamping shut

How does cold affect the body

So accidental immersion in cold water has an immediate danger - it speeds you up past the "starting to cough" stage right in to the "inhaled a gasp of water" stage.

But it also has an effect on your body in other ways:

Your heart rate and blood pressure shoots up in panic, which could cause cardiac arrest in anyone with a heart condition

The blood flow to your arms and legs is reduced, because your body needs it for your core, and you're unlikely to be able to swim strongly for very long at all.

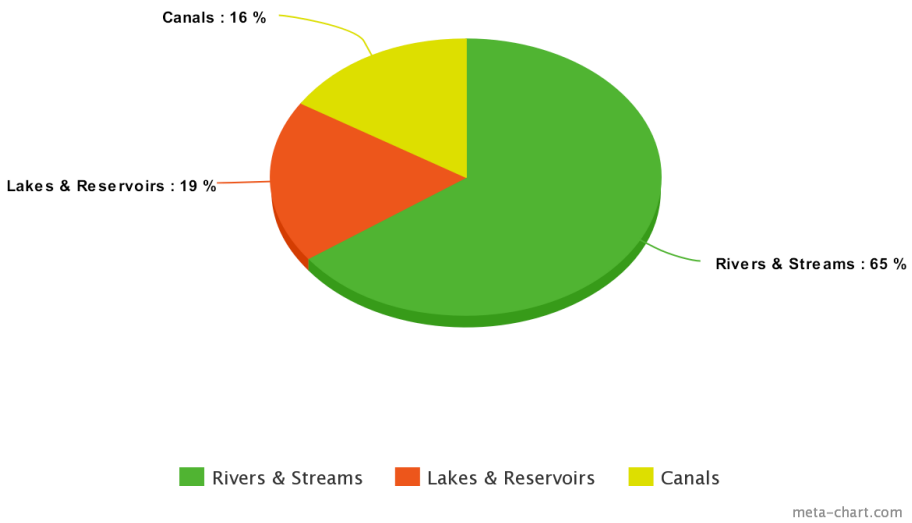
Click here to see an excellent video from the Coastguard which explains more

In short; falling in to cold water is very bad news indeed!

Where do drownings occur

63% of all drownings in the UK happen in inland waterways, so that's between 280-380 a year!

Of those, 65% happen in rivers and streams.



Our ancestors tended to build towns and villages near flowing water (which makes perfect sense) so it could be that the number of river deaths is high because there are so many people living near one.

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Where do drownings occur

We also know that water can be very deceptive.

It doesn't take much to knock a person off their feet, so a stream that you run across every day that is only a few inches deep can swell and become a very forceful current after heavy rain.

The force produced by water goes up 4 times for every doubling of its speed.

A stream flowing at a slow walking pace will push your legs with something like 4kg of weight.

If that stream is flowing at fast walking pace, the force is more like 16.3kg (a Collie dog's weight).

And if it's flowing at jogging pace the force will be over 35kg (full-grown German Shepherd dog's weight).

Where do drownings occur

The number of drownings in lakes and pools peaks in summer when people go for an intentional swim.

The water at the shallow edge may be warmed by the sun, but as soon as you swim out you hit the cold, deep water and your muscles fatigue very, very quickly and you will lose the ability to swim.

This video highlights a case in Shropshire where a man was swept away by a flooded brook which is normally only a few inches deep

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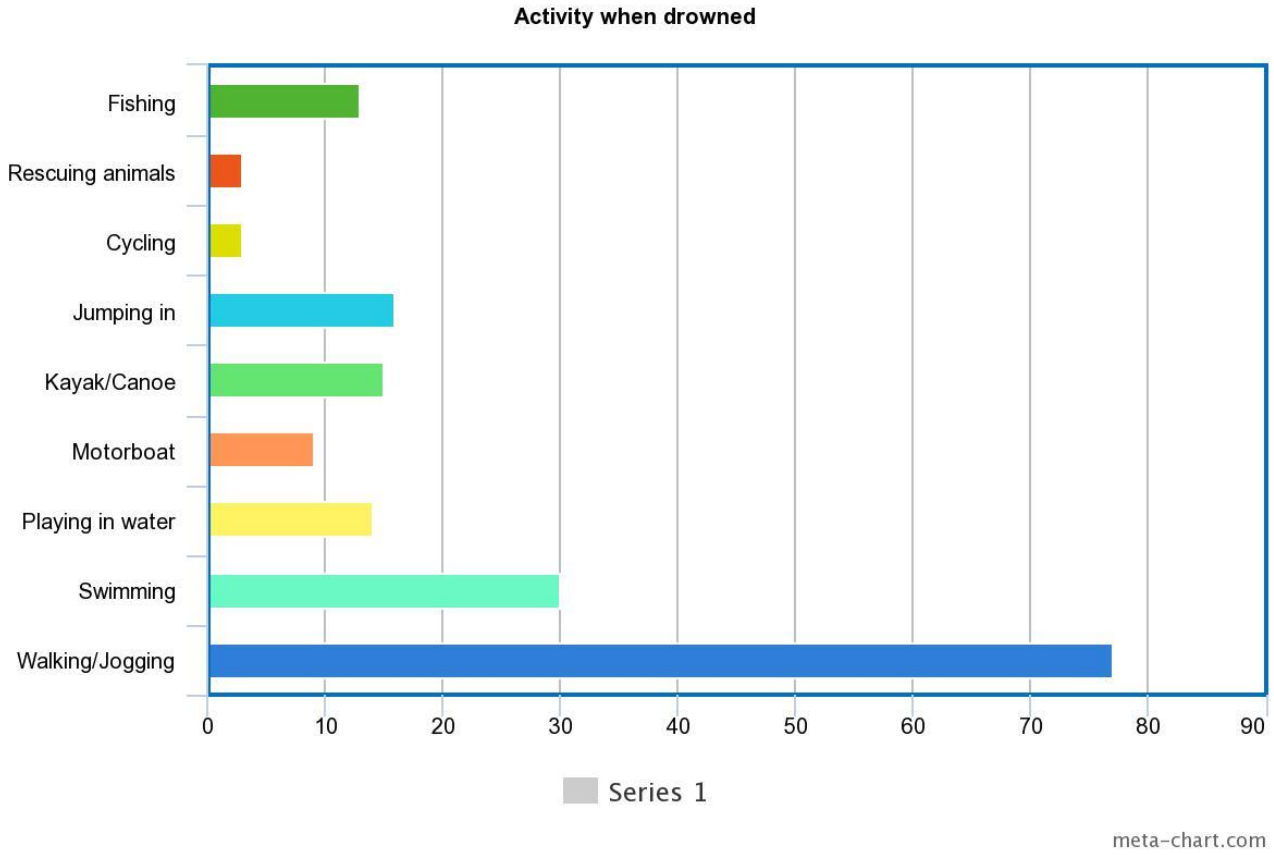
Who is most at risk from drowning

It's probably not who you think that is most at risk of drowning. It's actually people who have gone out walking or jogging who are at far greater risk than others.



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Who is most at risk from drowning

There could be many reasons for this, but some of them are:

Not expecting to enter the water, so completely unprepared

No flotation devices being worn

Clothing becoming snagged

Cold water reflex

They could well be non-swimmers!

But perhaps most people don't appreciate the danger from water. And whenever there is a reduction in risk awareness, we will see people getting in to trouble.

We also know that alcohol plays a part in around 20% of all drownings. Again, this is probably due to a reduction in risk awareness, but it's also because it's very difficult to swim when you're drunk.

How rivers flow

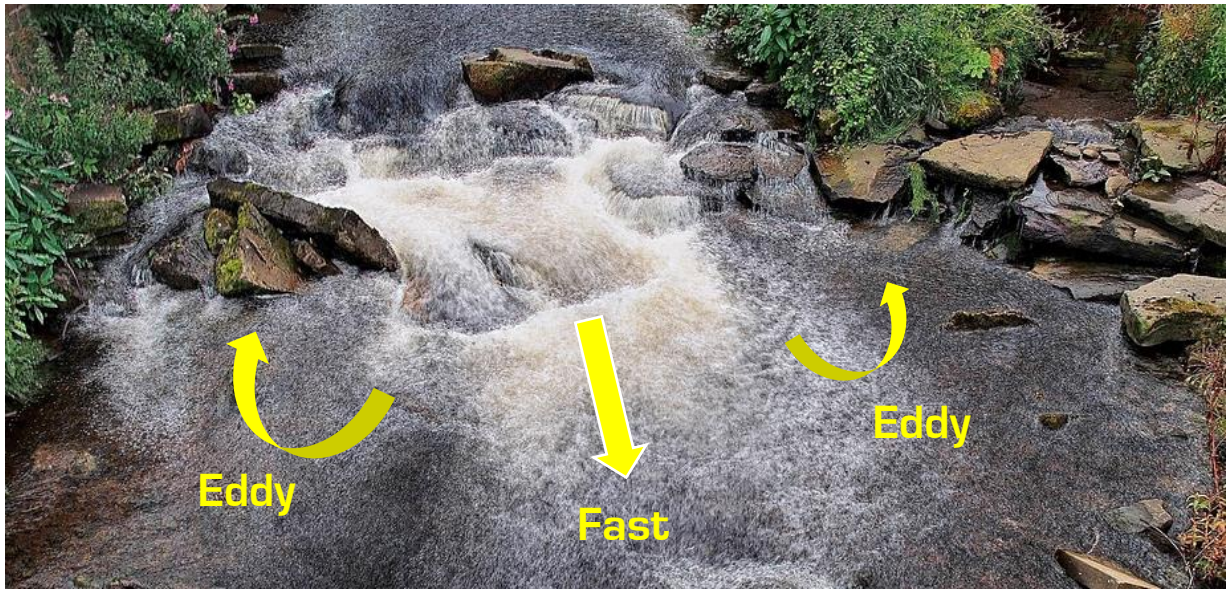
The water in rivers and streams does not all move at the same speed. It's important to realise that even if you can stand safely at the edge, crossing a watercourse could get very dangerous where it goes deeper.

The deeper parts of a river move faster, and with a lot more force.

It's also true that a smooth and calm looking river will be flowing faster than you think, especially at its deeper points. The surface of a river can sometimes move slower than the deep parts underneath it.

River Eddies

When water flows around an object like a stone or a bridge, or even an outcrop on a riverbank, some of it has to slow down to fill the hole that it would otherwise leave. It actually has to flow backwards, and creates something called an eddy.



If you're playing in one, a river can seem safe. But if you stray out of it and in to the flow you can get dragged away quickly

If you see someone in the main flow and able to swim, getting them to swim in to an eddy can stop them having to fight the flow and give them a rest

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River Eddies

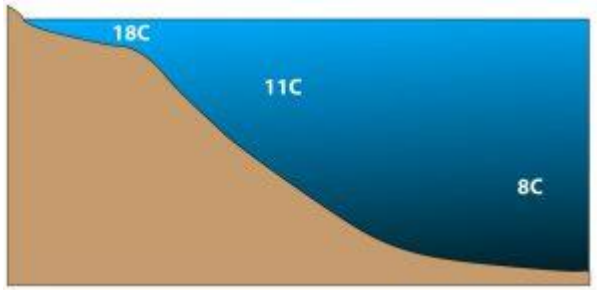
Kayakers and rescue teams learn to spot eddies and use them as places of temporary safety.

The kayaker on the right is sat in an eddy and doesn't float downstream.
In this video you can see a kayaker use an eddy to relax on a fast river

Lakes and Pools

In summer, playing at the edge of a lake, reservoir or pool is a joy. The water is refreshing where the sun has warmed it, and it's inviting.

But water takes an enormous amount of energy to heat up, and where a lake or pool is deep, it will always stay cold enough to induce hypothermia.



Every year, around July-September, the number of drownings leaps as people swim out in to deep pools and get in to difficulties. The cold water takes heat from the body 4x quicker than air, and drains energy making it very difficult to swim.

Slippery sides on many pools also make it difficult to get out.

This news report highlights a case in 2013 when two young men died in a Scottish reservoir, during a swim in August. Click here

Flood water

Flood water is extremely dangerous, but often in different ways to rivers and lakes.

For a start, it's not just water. If there's a flood, then it's fair to say that there's a good chance that sewers will have backed up in to it. Oil, fuel and dirt from vehicles will have floated. Animals will have died. Chemicals and oils will have been picked up. Fertilisers from gardens and pesticides will have been washed in.

So flood "water" isn't something you want to enter unless you absolutely have to.

Flood water

But flood water also hides what lies beneath it,
and often that's the most dangerous part.

On a flooded road you don't know where the kerb is, where drain holes are, or whether the tarmac is still there at all.

Trips and falls in to the water are a real danger, and we will explore those hidden hazards in our few pages.

Sharp objects

As a rescue team we spend a lot of time on the riverside, and we see a huge amount of broken glass, twisted metal, old bicycles and prams, fallen tree limbs and even the odd smashed car.

All of these things are hidden when the water levels rise, and are a real danger for anyone playing in or using the waterways.

This video by a dive club shows the bottom of a canal.
Imagine jumping in to that and hitting the bottom!

Foot traps

Michael Barnett, 28, died from hypothermia after he went to try to clear debris from a flooded drain behind the tropical fish business where he worked, an inquest was told yesterday.

Mr Barnett's father, also called Michael, said in a statement read to the inquest that his son had gone in to work in Hessle, near Hull, on June 25 although he had not needed to because the business was not open to customers on Mondays.

He said that 10 days earlier his son had come home drenched after going into the drain to clear debris during another flood.

The jury has been told how a grate was

Getting your foot trapped underwater is a major problem, and one which has killed people in the past.

Under the surface there are lots of things which can act like a mousetrap and snap down on your foot.

It can be very difficult to fight the current of any water and keep your energy as the low temperature of the water saps your heat.

If you find yourself having to walk through flood water, use a broom-handle to feel the ground in front of you. You will see rescue teams doing this, even in towns where manhole covers and drains may have lifted under the water.

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Strainers

These are objects in the river which let water flow through, but trap solid objects. They are very, very dangerous.

Strainers are most often low-hanging or fallen trees, but can also be railings, pontoons or debris in the river.

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Strainers

And that's the danger of a strainer; the force of a river can exert tonnes of pressure on you if you get pinned on a strainer.

There's no way you can free yourself.

Strainers are important to be aware of for anyone who is deliberately on, or by the river. Anglers would be well advised to position themselves downstream of any strainers, so if you did fall in you wouldn't become trapped.

And paddlers/kayakers need to be aware to steer well clear of strainers in case they cannot paddle back from one.

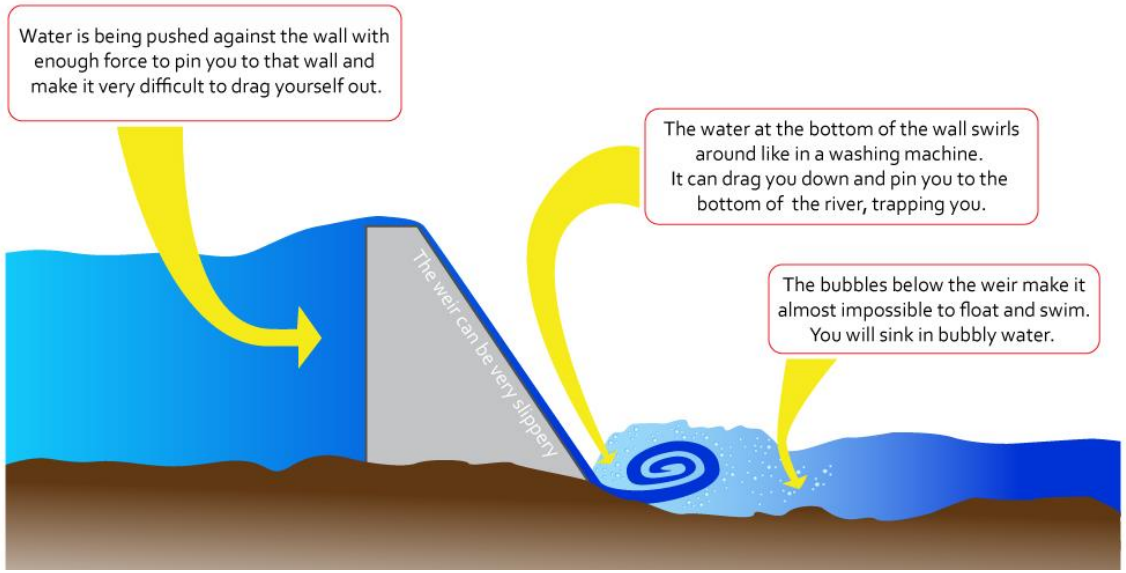
After a storm you will often see lots of tree branches and debris in a river, trapped against strainers.

Weirs

River weirs are man-made devices which slow down river flow. In summer they attract people to them as a playground, but they can be very dangerous places.

The water above the weir is being forced in to the "wall" at great pressure, and if you fall in here it is extremely difficult (and sometimes impossible) to escape.

The "slope" of the weir is almost always wet, so it gets slippery. Children using it as a slide are at great risk of falling over.



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Weirs

But perhaps the most dangerous part of a weir is the white, bubbly water at the bottom. This is whirling around in a circle like a washing machine, and if the flow is strong enough a person can become trapped here, spinning over and over.

If you ever see a weir, watch for sticks caught in the bubbly water, and how they just tumble over on themselves.

This video shows a kayaker stuck in a weir-style whirlpool - the same effect as a weir

Disease and Infection

Rescue teams have to have a variety of innoculations to be able to work safely in water, but even those don't fully protect us. We have had a team-member spend 3 days in hospital after they contracted a water-borne disease during training with the Fire Service in the River Severn.

Leptospirosis - if you have a dog you may well have had them vaccinated against this, but there's no human vaccine. Signs and symptoms can range from mild such as headaches, muscle pains, and fevers; to severe with bleeding from the lungs or meningitis.

Cryptosporidium - we live in a lovely rural part of the world, so our rivers get a lot of animal faeces in them. Some of this can contain very nasty bugs that give us serious gastro-intestinal problems.
Crypto' is one of them, and you really don't want it...!

Disease and Infection

Common sense tips:

Stagnant water and small pools should be avoided

Always wash your hands after touching open-water, and before eating or drinking

Cover any cuts, grazes or broken skin with a waterproof plaster to avoid infection

Don't swallow any water

Remember that it's not just natural diseases that live in our rivers.

There are plenty of manmade chemicals, fertilisers, oils, fuel, sewage and other things draining in to water upstream.

They're massively diluted normally, but still can pose a risk.

Rescue Tips

If you live, work, play or spend time by the water it's possible that you may have to get involved in rescuing yourself or others.

Don't worry, there are some very simple tips to follow in the next pages

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Call for help

If you are playing, fishing, running or cycling by the water, one of the biggest steps you can take to keep yourself and others safe is to carry a mobile phone, and keep it in a waterproof case.

If you fall in and manage to self-rescue, or get to the edge, you will still be able to phone for help.

999 calls can now pinpoint your location to a few hundred metres, which gives the Fire or Ambulance service a good head start on locating you even in rural locations.

If you regularly go to areas where there is not much mobile phone signal, you can pre-register to be able to send text messages to 999.

Send the word 'register' in an SMS message to 999

You will then receive SMS messages about the service

When you have read these SMS messages reply by sending 'yes'

You will receive a SMS message telling you that your mobile phone is registered or if there is a problem with your registration.

Call for help

We recommend the Aquapac range of waterproof cases for your phone, and they have suitable cases for activities on the water or by the water.

We have arranged an exclusive **20% discount** for Home & Dry course members. Just use the code **homeanddry** at the checkout!

waterproof phone case – iPhone 6 / iPhone 7 size

£19.99

Add to basket

waterproof phone case – iPhone 6 PLUS / iPhone 7 PLUS size

£24.99

Add to basket

TrailProof phone case

£13.99

Add to basket

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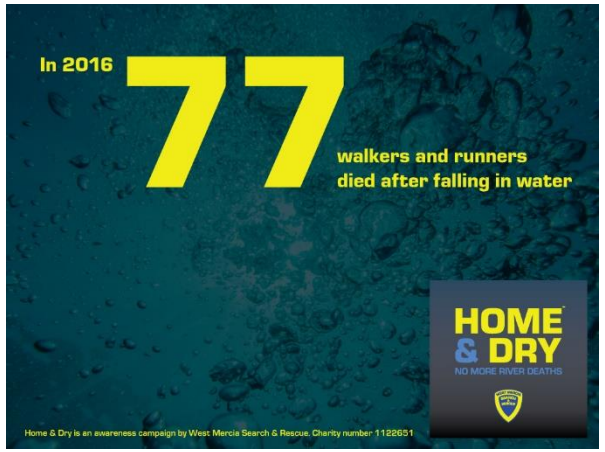
Tell someone where you are going

This might seem obvious, but remember those most likely to drown in the UK are walkers and runners who had no intention of going in the water.

If you are planning on heading out for a walk or run, and it takes you near the water, just leave a note or tell someone where you are going.

If you do fall in, and are unable to fully rescue yourself, or you are injured and wet, this can help summon and direct help to you more quickly.

You could also - providing your phone is waterproofed - use a tracking app like Find Friends, Viewranger's Buddy Beacon or Find My iPhone to make sure your family or friends knows where you are.



Don’t cross flooded streams

Most drownings happen within just 3m of a safe place, so it's important to remember that it's not just big rivers which can kill.

6 inches of water depth, flowing at jogging speed or more, can easily knock you off your feet.

You're unlikely to be able to stop once you're being pushed along by the water.

With hillside rain and snow-melt, our streams can become dangerous places in minutes; turning from trickles to torrents.

This video captured a stream flooding in 2016, and it's fair to say that walking across the stream after the 1-minute point could be very dangerous indeed.

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Don’t cross… even in a car

The same applies to driving your car.

We get regularly flooded roads in our region, and it's important to be aware that over 30% of deaths by drowning have involved a car!

Just 2ft of standing water will float your car, and 1ft or fast flowing water can sweep it away easily.

Flickr.com/maxstrz

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Don’t go on to ice

This unit should be obvious, but in the UK it rarely stays cold enough to make ice thick enough to support your body weight safely.

Ice on ponds and river-edges can suddenly give way and you can fall through.

The cold water is going to have the effects we described earlier, and there's a great demonstration in this video.

Notice that even though he KNEW he was going to go in, and held his breath, his body automatically responded by breathing fast and hard, and he couldn't call for help even if he tried for the first few seconds.

We suspect that, in the UK, there are a number of people who go out on to ice to rescue their dogs which have fallen in. Instead of doing that:

Call for help (999-fire) and shout for help

Find something to reach to your dog with (a stick)

Don't enter the water yourself

Look after your mates

We love a night out drinking in the UK, but unfortunately that leads to around 18 deaths a year when drunk men fall in to water and can't get themselves out.

It's a tragic thing which we see too much of in our region, and we think the best remedy is to promote people looking after their own friends.
The emergency services can only get there when it's too late.

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Look after your mates

Why do so many men fall in the water?

We don't know, but we do know that the majority tend to enter the water:

Within 100-300m of the last place they had a drink

In town-centres

At night

Perhaps they go towards the river as a place for a wee, or because it's a good route home, or for a nice sit down.

We've seen a lot of very wobbly men trying to walk home late at night, and sadly had to recover a few from the river.

Plan a route home before you get drunk

Have a wing-man if your route does go near water

Don't leave your mates behind

Spread the word and share our Home & Dry Facebook campaign

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Rescuing someone

So somebody has fallen in, and you are on the bank.

There are three simple steps you can take to rescue them;

Talk - Reach - Throw.

These form the basis for what rescue teams do, and they're common sense.

Rescuing someone - TALK

If someone falls in the water, or starts to struggle, the first step in rescue is to give them a focus. That focus is going to be YOU.

The cold-water shock response and disorientation of falling in to water means that a person is going to panic. Your voice, in a commanding way, is going to help.

LOOK AT ME! SWIM TO ME!

You need to shout at them. Give them commands, and use the fact that you are able to spot hazards to help them.

Can you see something dangerous that they can't?

Can you spot an eddy for them to swim to?

Can you see an easy exit point from the water?

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Rescuing someone - REACH

If they're not able to swim themselves to safety with you telling them how/where, then you may need to use something to reach to them and help them.

Beware that a person who is panicking can pull you in, so always use something that you can let go of if you need to.

Most likely to have nearby is a stick or tree branch, but you could look around for something else to use, for example:

Fishing rod

Broom or garden tool

Paddle or oar

Handful of reeds

Walking stick

Rescuing someone - REACH

If you live or work next to water, it may be worth investing in a proper reaching pole to keep somewhere accessible.

We recommend something like this: (http://amzn.to/2D6MNhS)

Rescuing someone - THROW

If you can't reach the person in the water, or don't have something to reach with, the last option for an untrained rescuer is to throw something to them.

There are two options; either throw something buoyant to help them stay afloat, or throw something which you can pull them back in with.

Buoyant / Floating objects

Somebody in the water and panicking is likely to benefit from an object which gives them some buoyancy, so they can swim more easily. We don't all carry buoyancy aids, but this can be ad-libbed using everyday items;

A football

A petrol container

A large drinks bottle

An up-turned bucket

Even an empty backpack will trap some air

The idea of this is just to re-focus the person so you can shout at them to swim to you again.

Rescuing someone - THROW

Throwlines and lifebuoys

Rescue teams use special bags of rope to throw to people in the water. You keep hold of a loose-end of rope and throw the bag, and they go surprisingly far.

If you live, work or regularly use the waterways, a throwline is the one piece of life-saving kit we recommend over all others.

We recommend this one: (http://amzn.to/2D2YfLw)

Rescuing someone - THROW

Throwlines and lifebuoys

But if you have a riverside property or boat, and you want something that has a little more weight to it, or something that can be used by the public, you can invest in a lifebuoy.

These are similar to the ones which you will see at the side of most town-centre rivers, and they are very easy to throw, and then pull back in.

We think this one is pretty good value: (http://amzn.to/2ADBI5f)

Rescuing someone - 999

If you've tried TALK, REACH and THROW, regardless of whether the person has been rescued or not, now is the time to call 999.

If they're still in the water, ask for Fire & Rescue (or Coastguard if you're on the coast), give an exact location if you can, and then continue to look for something to reach or throw to the person.

If they're out of the water and conscious, ask for an Ambulance so they can be checked over. If they've panicked and inhaled a lot of water they may need to be taken to A&E for observations on their lungs. They may also be suffering from hypothermia, which puts their heart under a great deal of stress.

Keep them warm, and take off any wet clothes. Encourage them to walk around and keep moving if they can, to maintain warmth.

Rescuing someone – Recovery Position

If they lose consciousness, place them in to the recovery position to protect their breathing, and inform 999.

Keep a close eye on their breathing, and keep them warm.

To learn how to check for breathing, and to put a person in to the recovery position have a look at this video

Rescuing someone – Rescue Breaths

If you remember what happens when somebody starts to drown; their vocal chords clamp shut and stop them breathing.

This can sometimes mean that they are not breathing when they are pulled from the water, but they're not yet beyond help.

You can give a drowned person the best chance of survival by performing rescue breaths and CPR chest compressions.

Rescuing someone – Rescue Breaths

On somebody who has drowned, the first thing to do if they are not breathing is to give 2 rescue breaths. Sometimes this is enough to kick-start them back in to breathing for themselves.

If the person is a loved-one, you may be happy to do this mouth-to-mouth.

If the person is a stranger, or you are concerned about infection, you may wish to carry a face-shield in your wallet or handbag.

This is a small plastic sheet with a valve in it, which allows you give rescue breaths, but does not allow any germs to enter your mouth.

We recommend this one at just 95p: (http://amzn.to/2ADEORI)

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Rescuing someone – Chest Compressions

Once you have given the rescue breaths (or if you don't want to give them) then move on to chest compressions.

Anyone can do this, and it is not as scary as it looks.

If you've phoned 999, they will talk you through it.

But if you want to learn more, you can watch this excellent video

Keep going with the chest compressions until the ambulance arrives.

Congratulations

You have now completed the Home & Dry Water Safety Course.

Please tell your friends about the course.

You can download your free certificate here.

If you would consider a small donation to our charity to help us keep saving lives, and promoting water-safety it would make a big difference.

You can donate online at www.westmerciasar.org.uk/donate

Or text “resc00 £2” to 70070

Thank you!

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