



Lifeboats

# CHOOSE IT WEAR IT

The RNLI guide  
to lifejackets and  
buoyancy aids



RESPECT  
THE WATER





Useless  
unless worn

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# THE IMPORTANCE OF WEARING YOUR LIFEJACKET

## Why wear one?

Every year, around 200 people drown in the coastal waters around the UK and Republic of Ireland. These tragedies happen to people taking part in a wide range of water-based and waterside activities.

Research has proven that wearing a lifejacket can increase your chances of survival by up to four times if you're immersed in cold water. \*

Whatever your activity, wearing a well-fitted, well-maintained and suitable lifejacket or buoyancy aid could save your life.

Source\* Professor Mike Tipton 2012.

### Best option – don't fall in!

If you fall over the side and are not attached to your boat, you can rapidly become separated from the vessel. This will greatly increase the difficulty of rescue, especially at night, and so decrease your chances of survival.

Staying on, or near, your boat is always going to be the best option. At the very least, make a policy of clipping on to suitable points around the boat at night, when alone on deck, or in rough conditions. Ensure you have a harness line with a hook at both ends. Clipping on is particularly important on sailing boats, where the motion and angle of heel can be unpredictable.

Whenever possible, use a lanyard that is sufficiently short to prevent you from falling over the side. If someone falls overboard while attached to a safety lanyard, stop the boat immediately – being dragged through the water alongside a vessel can be life threatening.



### Motorboats and fast vessels

On a motorboat, it's advisable to clip on when you leave the cockpit to perform a task on deck such as anchoring. Clipping on is *not* advised on fast motorboats or fast sailing boats when travelling at speed, because it may result in the clipped-on person being dragged through the water if they fall overboard.

### Irish legislation

In the Republic of Ireland, the law requires that an appropriate lifejacket or buoyancy aid must be carried for everyone onboard all vessels. If the craft is under 7m, personal flotation devices must be worn at all times on an open vessel or on deck on a vessel with accommodation. Anyone under the age of 16 must wear a personal flotation device at all times on an open boat or on deck if the vessel has accommodation, irrespective of the size of the vessel.

## Cold water shock

Cold water shock is the uncontrollable reaction of the body when it is first submerged in cold water (15°C or lower). In initial submersion, the body will experience a gasp reflex, which is a rapid intake of air. This is followed by a fourfold increase in breathing rate and associated increases in heart rate and blood pressure, making some people susceptible to heart attacks. These symptoms will last up to 3–5 minutes during which even the fittest person is unable to swim or to focus on breathing. Wearing a lifejacket with the correct buoyancy is vital to survival.

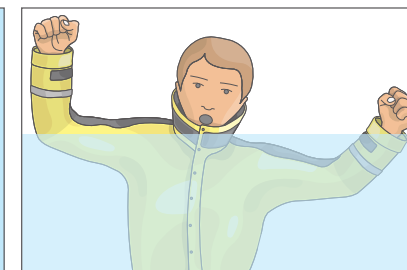
During the initial stages of cold water shock, try to stay calm and let your lifejacket keep you afloat. The clothing you are wearing, the fitting and features of your lifejacket and the amount of energy you expend will all be critical factors to survival from this point onwards.

Without a lifejacket even the most competent swimmer will suffer from 'swim failure' after around 30 minutes of swimming in cold water. If you are wearing a well-fitting lifejacket with crotch straps, there is no need to swim and you can concentrate on keeping warm, conserving energy and making yourself visible.

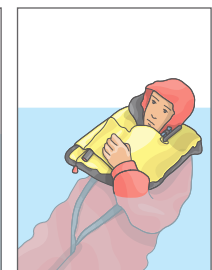
In a group, form a huddle by using one hand to hold on to the person next to you while the other is protecting your airway. If you are on your own, cross your ankles, put your knees together and bring your arms around your body and float in the Heat Escape Lessening Position (HELP), pictured below.



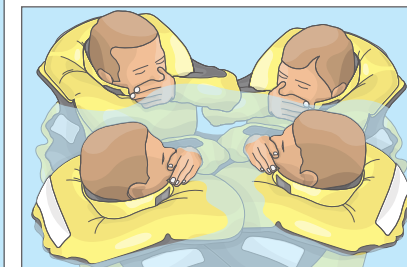
HELP reduces heat loss



Gasp reflex caused by cold water shock



With crotch straps



A huddle can be seen more easily



Without crotch straps

# CHOOSING YOUR LIFEJACKET

## What size?

**Most level 150 and level 275 inflatable lifejackets are produced in one size suitable for all adults weighing over 40kgs (6 stone 4lbs). The only limiting factor can be the length of the waist/chest belt, which can vary between makes.**

Because of their buoyancy, all adults, regardless of their size, have a net weight of about 5kg when immersed in water. You do not need a lifejacket or buoyancy aid with more buoyancy just because you're big.

Buoyancy aids and level 100 lifejackets, however, come in a range of sizes from baby to adult XXXL. Make sure you get one that fits properly.

## A good fit

**Take time to find a style of lifejacket that is comfortable to wear and suits your needs – the best lifejacket is one you will wear.**

When in the shop, try on a few different options and think about what it'll be like to wear it doing your watersport. Is it a good fit? Is it comfortable? Do you like it? Picking the right one for you may take time, but it will be time and money well spent. If you are buying online, think about finding a way to try on the style of your choice first; do you have friends or family with the same jacket?

## Lifejacket standards

All new lifejackets sold in the UK, Republic of Ireland and elsewhere in Europe are required to meet the International Standards Organisation standard ISO12402. Older lifejackets may carry the CE mark. This is numbered from EN393 to EN399, depending on the amount of buoyancy provided.

## Buoyancy aid – level 50



Buoyancy aids at level 50 are recommended for use by swimmers in sheltered waters or by those doing watersports where help is close at hand. However, they do not have sufficient buoyancy to protect a person who is unable to help themselves. They are not designed to turn a person from a face-down position in the water.

## Lifejacket – level 100



The level 100 lifejacket is recommended for use in sheltered and calm waters. It may not have sufficient buoyancy to protect a person who is unable to help themselves and may not roll an unconscious person on to their back.



## Lifejacket – level 150

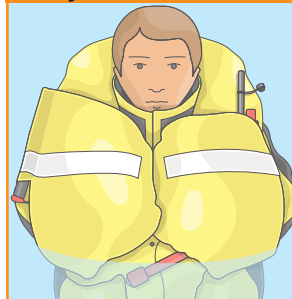


**The level 150 lifejacket is for general use on coastal and offshore waters where a high standard of performance is required.**

It should turn an unconscious person on to their back and requires no subsequent action by the wearer to keep their face out of the water. Its performance may be affected if the user is wearing heavy and/or waterproof clothing.



## Lifejacket – level 275



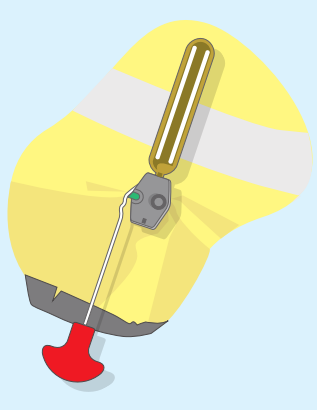
The level 275 lifejacket is recommended for offshore use, primarily for extreme conditions and for those wearing heavy protective clothing that may adversely affect the self-righting capacity of lesser lifejackets. As with the level 150, this lifejacket is designed to ensure that the wearer is floating in the correct position with their mouth and nose clear of the surface of the water.



# AUTOMATIC OR MANUAL

There are three inflation methods of gas-only lifejackets. Choose one that best suits your activity. Most inflatable lifejackets are inflated by piercing a bottle filled with carbon dioxide (CO<sub>2</sub>) attached to the firing head. Orally-inflated-only lifejackets (ones without a gas cylinder) are not recommended for everyday use.

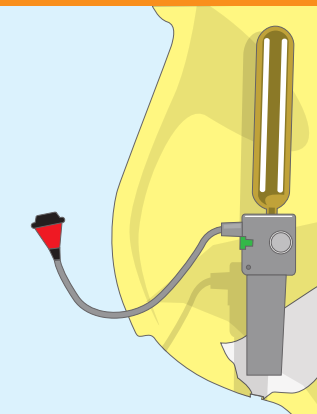
## Manual



Manually inflated lifejackets are operated by pulling a cord, which pushes a firing pin into the CO<sub>2</sub> bottle, which inflates the lifejacket. Manual activation prevents the possibility of false activation, which can be caused by a damp automatic mechanism or the wearer being hit by a large wave.

Of course, manual activation will not work if you are unconscious, or suffering from the effects of cold water shock.

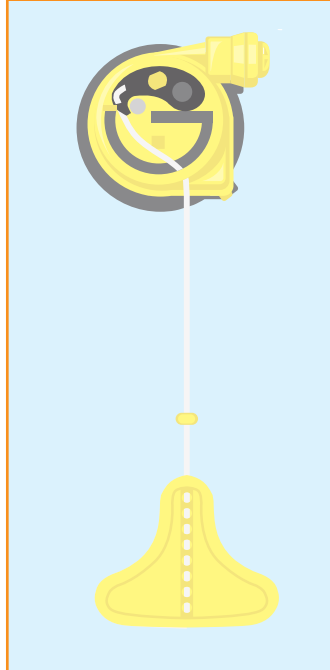
## Automatic – water activated



Water activated automatic firing heads have a small pellet or bobbin that holds back a powerful spring. When the pellet/bobbin contacts water it dissolves very rapidly, releasing the spring which pushes the firing pin into the gas bottle.

Due to the effects of cold water shock, most people choose a lifejacket that will inflate automatically if they enter the water.

## Automatic – pressure activated



Hydrostatic (Hammar) lifejackets work the same way as an automatic lifejacket (with a dissolving pellet) but the pellet is protected by a case that only lets water in once it is a few centimetres under water. It won't fire unless fully submerged.

Choose this type of lifejacket if you take part in an activity where you are regularly soaked by waves or excessive spray.

CO<sub>2</sub> bottles in hydrostatic lifejackets are less likely to suffer from corrosion.



Automatic lifejackets always have a means to manually activate the CO<sub>2</sub> bottle as well as a mouthpiece to allow oral inflation.

The primary means of inflating a lifejacket should always be the pull cord. Always aim to inflate your lifejacket before entering the water.

Newer lifejackets may have indicators to show if gas bottles are empty or if automatic firing systems have been triggered.

# CHOOSING YOUR BUOYANCY AID

## What suits your activity – lifejacket or buoyancy aid?

Choose a buoyancy aid if you are a competent swimmer taking part in an activity where you expect to end up in the water and are preferably wearing clothing that will already provide you with some extra buoyancy (such as a wetsuit or a dry suit). Buoyancy aids are vital when learning a new watersport.

A buoyancy aid has integral foam buoyancy. But it is not designed to turn a person the right way up, and so would not support an unconscious person in the water.



Kayaking buoyancy aid

### Kayaking and canoeing

Buoyancy aids for kayaking are cut away around the shoulders and the arms; they need to be comfortable for paddling and swimming. They should have a belt or a drawstring to pull them tight around the chest. Choose a brightly coloured one that can be easily spotted.

### Touring, sea kayaking and sit on top kayaks

Choose completely cut away arms to allow for comfortable paddling over long periods, and multiple pockets to store safety, navigation and fishing equipment.

### Whitewater

These have more buoyancy to keep you afloat in fast-flowing water and so are bulkier. The fronts are often cut high to allow the wearer to lean forward easily.

Your jacket must secure tightly to ensure it will not be ripped off by water pressure, must have at least one pocket for calling-for-help/rescue equipment and have a 'clean', snag-free exterior.



Dinghy sailing buoyancy aid

### Dinghy sailing

Dinghy sailing buoyancy aids tend to be slimmer to allow freedom of movement around the boat. They are high cut to allow bending and room to wear a trapeze harness. Choose a jacket that has few pockets and belts to keep a 'clean' exterior that will not catch on rigging. Carry a knife to avoid entrapment in the event of a capsize.

### Angling

There is a diverse range of lifejackets specifically designed for anglers, from fishing vests with integral gas inflation to slim-line fly fishing horseshoe jackets. Choose a jacket that best suits your type of angling.

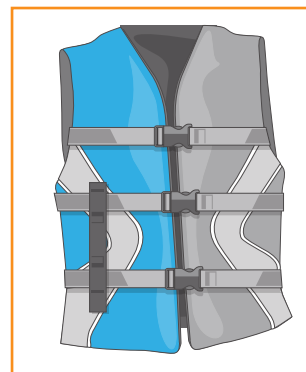
If you are wading, high-cut jackets are better. If you cast a lot, choose something less bulky. Flotation suits and vests will protect from the cold and can offer buoyancy in addition to your lifejacket. However, they are not designed to turn an unconscious person face-up in the water and may be too loose to provide proper support, so are not recommended as a primary aid.



Anglers vest style inflatable buoyancy aid

### Other watersports

Buoyancy aids do not have to be sport-specific; just comfortable, the right level of buoyancy and the right size for you. If you choose a dual-function jacket, such as a water-skiing impact jacket or a flotation jacket, then double check the item has a minimum of level 50 buoyancy.

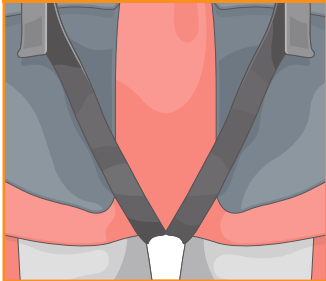


An impact vest for waterskiing

# LIFEJACKET FEATURES

There are several features on a lifejacket that can greatly enhance your chances of survival if you end up in the water. Though not all these features come as standard with every jacket, they can be easily fitted afterwards. Make sure you know what your lifejacket comes with when choosing which one to buy.

## Crotch straps



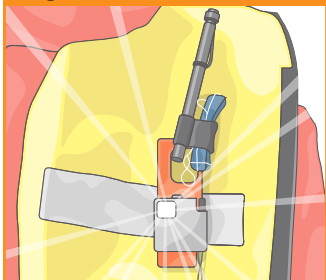
Crotch or thigh straps stop the lifejacket from rising up. They also keep your mouth and nose slightly higher, thereby reducing the chances of water inhalation. Depending on the lifejacket design, either one or two straps may be fitted.

## Spray hood



Even with a level 150 lifejacket you may be subjected to waves in your face. A spray hood will keep wind-blown spray and breaking waves away from your airways making it easier to breathe and reducing the risk of drowning. The spray hood will also help to reduce heat loss from your head and make you a lot more visible in the water. A good spray hood will have air vents at the side.

## Light



A fixed or flashing light attached to your lifejacket makes you much easier to find at night or at times of poor visibility. Lights can be easily retrofitted if your jacket does not already come with one.

## Whistle



A whistle comes as standard on a lifejacket but not on a buoyancy aid. The attachment of a whistle, even on a non SOLAS-approved flotation device, will increase your chances of being detected while you're floating on the water's surface. It is a low cost addition to your personal safety kit.

## Personal Locator Beacon (PLB) or AIS MOB devices

Fitting a PLB or AIS device will help raise the alarm and tell rescuers where you are.



PLBs are manually operated. They have worldwide coverage and transmit a signal via satellite to the emergency services.



AIS MOB devices use a VHF signal to alert local vessels (able to receive AIS signals) of a man overboard. They can be fitted to operate automatically when the lifejacket inflates.

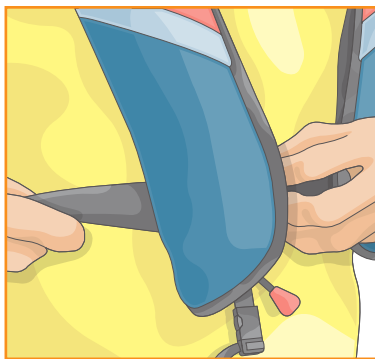
# FITTING YOUR LIFEJACKET

Once you have a lifejacket that suits your needs, it is vital that you fit it correctly.

Crotch straps must be secured and all other straps correctly adjusted. Unless the lifejacket belt is securely fastened to the wearer, the lifejacket will simply float up above the shoulders when in the water.

Buckles need to be easy to use and effective to ensure that the belt does not slack. There are several methods to tighten different lifejackets so take some time to become familiar with the one you are wearing. Try fitting it properly in the shop before you buy.

## Side fastening



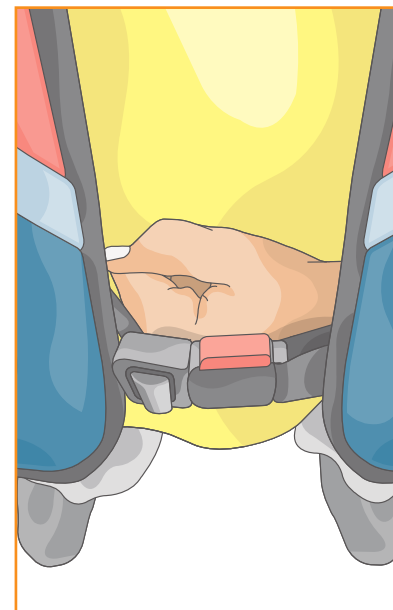
Adjust either while wearing or before you fit

## Pull to fit



The straps are 'rocked' forwards and backwards to obtain a tighter fit

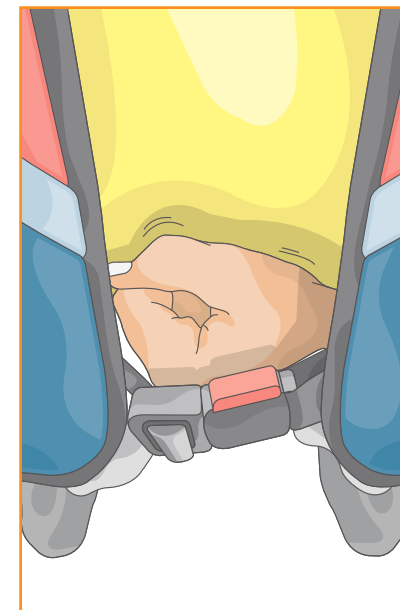
## Fit



### Good fit

Once your lifejacket is tightened, test the fit by placing your fist underneath the buckle. If there is a gap between your fist and your clothing then the lifejacket is a little loose. If your fist will not fit then you may wish to loosen your jacket for comfort.

Newer designs of lifejackets do not require as much room beneath the chest strap. Always check manufacturers' fitting guidelines. Some makes allow you to adjust the back strap to reduce chafing to your neck.



### Bad fit

Some manufacturers now produce extremely compact 3d lifejackets, which many users find comfortable to wear. Because these jackets are difficult to repack correctly, they should be returned to a service agent for repacking as soon as possible after they've been inflated. They should only ever be repacked by an approved service agent.

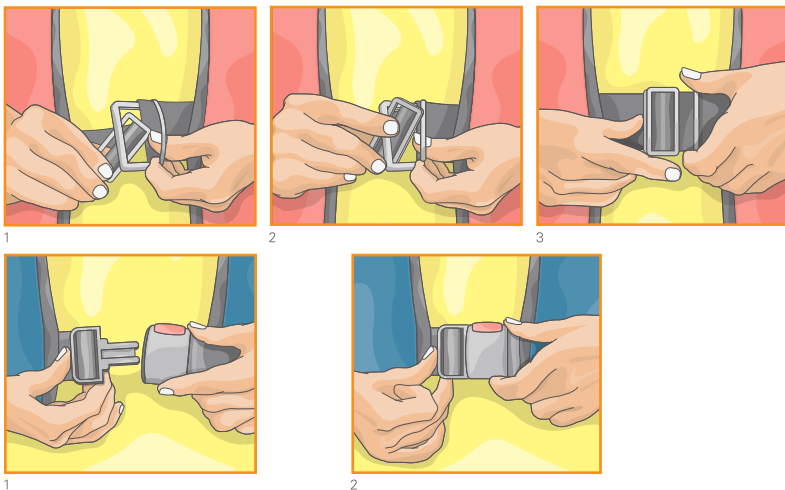
Before buying a lifejacket, try it on in the shop. Make sure you find it comfortable, easy to fasten and easy to adjust. Everyone is different so pick the right style for you.



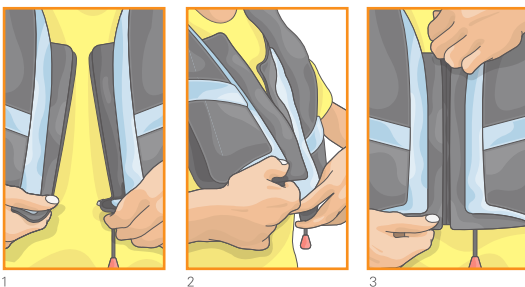
# FASTENING YOUR LIFEJACKET

Fitting your lifejacket may seem a simple task, but it can still challenge the most experienced. Here we look at putting on your lifejacket, and different methods of securing it.

## Buckles



## Zips



## Crotch straps



Crotch strap too loose

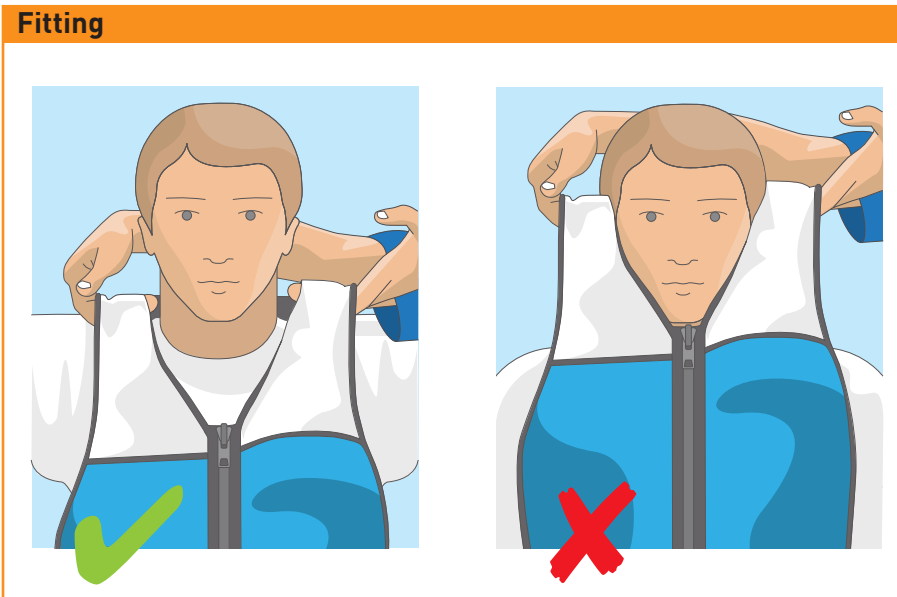


Crotch strap correct

To prevent snagging, crotch straps should be done up and not left hanging. Well-adjusted crotch straps will be as short as possible while still allowing comfortable movement.

In the event of entering the water, crotch straps need to be tightened fully to stop the lifejacket from riding up. You should be able to reach your crotch straps easily to be able to tighten them in the water.

# FITTING AND MAINTAINING YOUR BUOYANCY AID



A good way to tell if a buoyancy aid is the right size is to fit and adjust the jacket then lift from the shoulders. It should not be possible to move the jacket. If it slides up, try a smaller size or tighter fit.

## Maintaining your buoyancy aid

Regularly check the foam in your buoyancy aid for visible signs of deterioration. Over time, the foam will become compressed and so lose buoyancy. When this happens it is time to replace the jacket.

Levels of buoyancy can be checked by measuring the jacket's displacement in water. Refer to ISO 12402 standards to find the correct weight to test your jacket.

Visually check the outer material, webbing, stitching, zips and buckles for signs of damage or wear.

# LIFEJACKETS FOR CHILDREN



Children's lifejackets may rely on foam, air and foam, or CO<sub>2</sub> only to provide buoyancy.

Air and foam and CO<sub>2</sub>-only lifejackets meet the requirements of a level 150 lifejacket and are suitable for offshore use. Normally, foam lifejackets provide level 100 buoyancy and are suitable for inshore use.

Air and foam lifejackets provide level 100 buoyancy when deflated, and can be up to level 150 when inflated. These lifejackets are usually bulkier, but they provide inherent buoyancy. They may also help to keep the child warm and provide a degree of protection in the case of a fall.

CO<sub>2</sub> lifejackets tend to be smaller, lighter and more comfortable to wear; but this type of lifejacket does not provide any buoyancy when not inflated. So if you choose an inflatable lifejacket, you must assess whether your child would be able to activate it if they fell into the water.

## Air and foam



Pros	Cons
Can be used both inshore and offshore	Must remember to orally inflate tube when going offshore
Less bulky than foam-only jackets	

# LIFEJACKETS FOR CHILDREN

## Foam-only



Pros	Cons
Warm and provides protection from falls	Bulky
Gives immediate buoyancy if the child falls in	

## CO<sub>2</sub> only

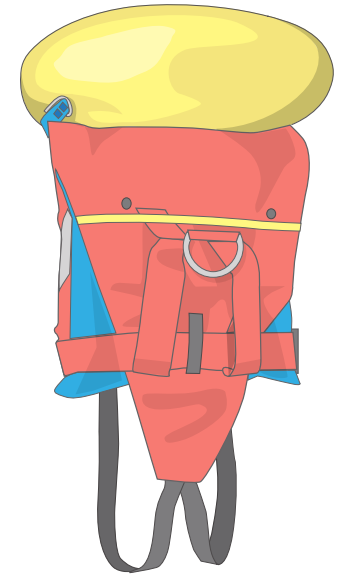


Pros	Cons
Smaller, lighter, more comfortable to wear	Provides no buoyancy when not inflated
	Child must be able to activate the manual override, even when frightened or suffering from cold water shock

## Features

Children's lifejackets are supplied with a whistle to attract attention, and crotch straps as standard that **must** be worn at all times to prevent the jacket slipping off in the water or during rescue.

Many children's lifejackets also have a built-in safety harness with a D-ring attachment at the rear of the jacket. This is particularly suitable for younger children who can be attached to a suitable adult either onboard, or at the water's edge. For older children on a sailing vessel, the child may be harnessed to the boat. Children should never be harnessed to a vessel travelling at high speed as there is a risk they will be dragged along under the water if they fall overboard.



D-ring safety harness fitting

## Size and fitting

All children's lifejackets state a maximum weight and chest size, which must not be exceeded. However, it is equally important not to purchase a jacket that is too large.

If it is too large, the child could slip out of the jacket or the jacket could float high in the water, leaving the child's mouth and nose submerged. Refer to page 18 for fitting instructions.

# MAINTAINING YOUR LIFEJACKET

Lifejackets do not last forever, so regularly inspect yours for wear and tear. Whatever type of lifejacket you use it will need basic maintenance to keep it working properly. The RNLI recommends you regularly inspect your own lifejacket, according to the manufacturer's instructions and in conjunction with an annual service. Modern 3d lifejackets can be difficult to repack correctly. If in doubt, take the jacket to the manufacturer's recommended service agent for checking and repacking.

**Remember:** a lifejacket can only save you if you're wearing it.

## Monthly checks

### Visual



Check the webbing and the stitching that holds the webbing together. Lifejackets with a coloured thread, which strongly contrasts with the webbing, make it much easier to spot worn stitching. Also check zips, buckles and other fastenings.

### Gas bottle



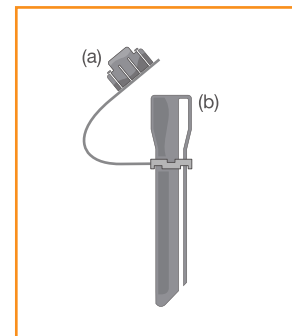
Screw-in CO<sub>2</sub> bottles in lifejackets can work themselves loose and should be checked for tightness every month.

Always carry re-arming kits for each type of lifejacket you have onboard. If a lifejacket is accidentally inflated, you will be able to get it ready for use again straight away.



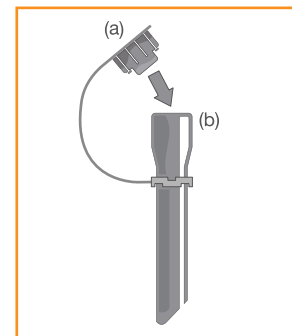
Check the CO<sub>2</sub> bottle for corrosion. A heavily corroded bottle should be replaced. Also check any areas of material that were in contact with a rough cylinder – the fabric may have been damaged.

## Oral inflate



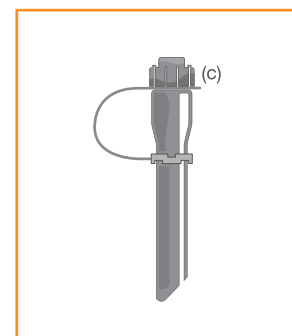
Regularly inflate the lifejacket orally. Leave it inflated for 24 hours in a dry environment to ensure there are no leaks or damage. Repack the lifejacket according to the manufacturer's folding instructions.

The lifejacket **must** be deflated by reversing the cap (a) on the oral inflation tube and inserting it into the end of the tube (b); hold the cap in the end of the tube during the deflation process. **Never use anything other than the cap to deflate the lifejacket.** Once the lifejacket has been deflated, replace the cap over the end of the oral inflation tube (c). This will prevent dust or particles entering the valve. Using any other method of deflating the lifejacket can result in damage to the oral tube valve, preventing the lifejacket from holding air, which will not be discovered until the lifejacket is used during drills or in an emergency.



### Annual service

Every 12 months it is highly recommended that you return your lifejackets to the manufacturer or a qualified service agent for a full service. Wear and contamination from salt spray, sand and dirt will all contribute to decreasing the life expectancy of your lifejacket. **If you look after your lifejacket, it will look after you.**



### RNLI lifejacket clinics

The RNLI runs free lifejacket clinics where our trained volunteers will inspect your lifejacket and show you how to carry out your own checks.

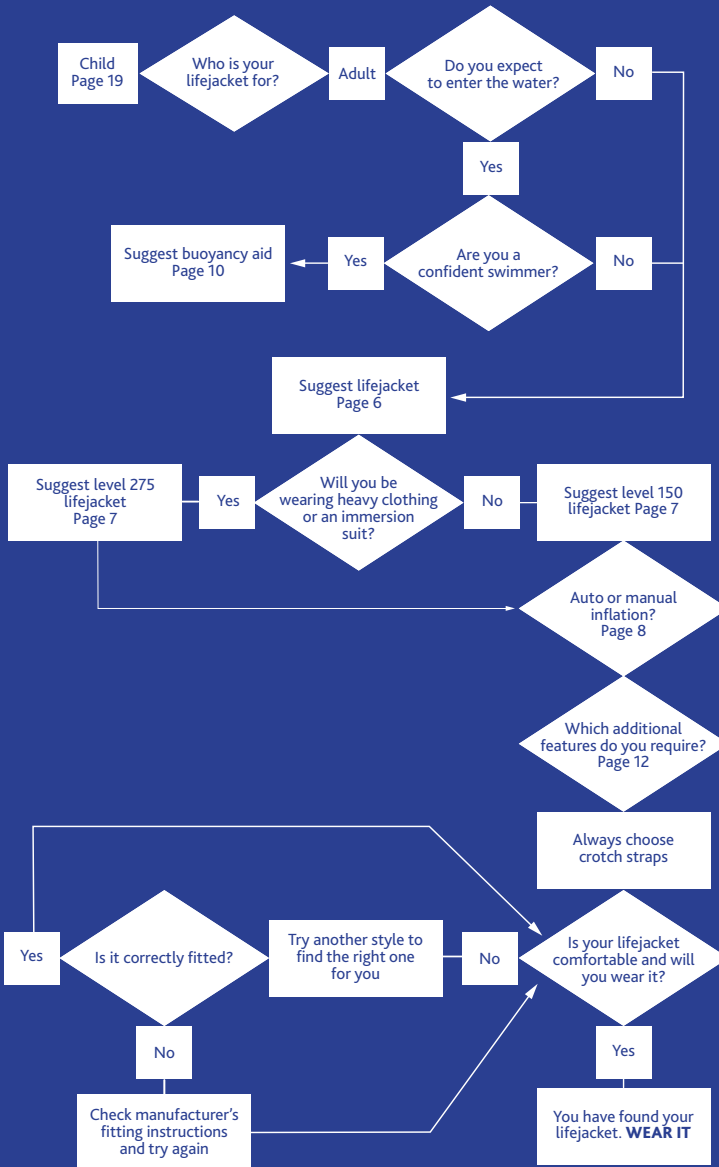
To find out about a clinic near you, or to book a clinic for your club or group, email [community\\_safety@rnli.org.uk](mailto:community_safety@rnli.org.uk).

# CHOOSE YOUR LIFEJACKET



Lifeboats

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