

**To the licenced skydiver (sport parachutist):**

Having read British Skydiving Form 115E, if you have doubts about your fitness to do a jump, please discuss this with your doctor. They should read this form before giving the advice. The National Health Service does not provide this advice and you may be charged for it. You may also have to pay for any additional tests or referrals needed to clarify your risk. Your GP, or the specialist treating you, will usually be the doctors who know most about you and so are in the best position to give advice. If they prefer not to be involved, you can approach any other doctor for private sports medical advice. Doctors approved for aviation medical assessments (AMEs) are particularly suited to this work and can be located at <https://www.caa.co.uk/medical>. See also Licenced Medical FAQs at <http://www.britishskydiving.org/staysafe>

**To the doctor:**

**LICENSED SKYDIVER REQUEST FOR MEDICAL ADVICE**

Skydiving (sport parachuting) is a "risk sport" where there is always a small but persistent chance of injury or death. Some medical conditions may increase this risk. Skydiving itself may exacerbate some medical conditions. Your patient is approaching you for advice on their level of risk. Risk can be categorized as:

1. No Extra Risk. No significant medical risk factors. There is still the normal risk of the skydive itself.
2. Acceptable Extra Risk. Some medical risk factors with moderate acceptable increase in risk to the individual concerned and the individual has been advised of this increase in risk. They can still jump if they wish to accept this extra risk.
3. Acceptable Risk if the Chief Instructor is Informed. Some medical risk factors can be mitigated by the individual informing the Chief Instructor before skydiving.
4. Unacceptable Risk. High risk of injury. Increased risk of major or incapacitating injury. Significantly increased risk of death. Significant or unquantifiable risk to other skydivers. You should usually advise your patient not to jump. Conditions listed below as "unacceptable risk" may have occasional exceptions allowing them to be rated as "acceptable extra risk", but only after mitigating factors have been discussed and agreed with the Association's Medical Adviser.

Skydivers make descents from unpressurised aircraft at heights of 2,500 to 15,000 feet above sea level without supplementary oxygen. They may jump alone or in close proximity to other skydivers. At 15,000 feet there is a 40% reduction in available oxygen. A tachycardia of 120 - 160 bpm is common in experienced skydivers and 200 bpm is not unusual in novices. The tachycardia may be present at the same time as relative hypoxia. The skydiver will not normally be able to access medication or inhalers during the aircraft flight or skydive. Solo skydivers wear their own individual parachute system. They must be able to monitor their height above the ground, activate their parachute at the correct altitude, take emergency action if necessary, steer their parachute to a safe landing area, avoid collisions with other skydivers and not display behaviour that would put others at risk.

The minimum acceptable binocular visual acuity is Snellen 6/12 (or maximum impairment Logmar 0.3), with a full visual field in at least one eye. When glasses or lenses are required to achieve this, they must be used on all descents. Blindness in one eye is acceptable provided the other eye has a full field and the candidate has adapted to monocular vision. There is divided opinion on whether skydiving may affect the risk of recurrence of a previous retinal detachment, but there appears to be little good evidence for or against. An unquantifiable risk of loss of vision will be an unacceptable risk for many people, unless the treating ophthalmologist is prepared to give specific reassurance.

Normal mental development and a stable mental state without cognitive impairment are important. The candidate must be alert, must respond to simple orders without hesitation or distraction and their behaviour must not pose a risk to others around them. The candidate must be able to understand what they are about to do and have capacity to give fully informed consent.

Musculoskeletal fitness is required. Each hand should be able to operate the equipment and be able to exert a pull of 30 lbs / 13.5kg in any direction. During the parachute deployment there is a brisk deceleration, usually about 4g but occasionally up to 15g. The landing impact typically involves a descent rate equivalent to jumping from a wall 4 feet high, with a horizontal speed of 0 - 15mph. Occasionally the landing impact may be considerably greater than this. Pre-existing spinal or joint injuries may be exacerbated. Unstable spinal injuries or subluxation may be exacerbated by parachute opening forces or landing impact and are an unacceptable risk. Previous joint, tendon, cartilage or ligament repairs can be damaged. Osteoporosis increases the risk of injury both during parachute deployment and during landing. Previous fragility fractures of the spine or hip are usually unacceptable risk factors. Previous traumatic fractures should have healed and if any metalwork has been removed, time should be allowed for holes to fill and ossify for risk to be acceptable. Normal peripheral sensation and co-ordination are required to activate the parachute but may be impaired by

disorders of the nervous system or peripheral vasculature. Isolated reduced limb strength or limb loss in an otherwise healthy candidate may sometimes be acceptable after taking further advice, but the chief instructor must be made aware so that a functional risk assessment can be made.

Unstable or dislocatable shoulders are particularly likely to dislocate again while skydiving. This is not only painful but risks further serious injury due to difficulty activating the parachute or controlling the parachute during landing. A dislocatable shoulder is an unacceptable risk factor for solo skydiving unless the candidate has had successful stabilisation of the shoulder and retains good power and range of movement.

Obesity increases the likelihood of lower limb or spinal injuries but is an acceptable extra risk provided the experienced jumper has been advised of this risk.

Cardiac and respiratory fitness is important. Ischaemic heart disease, cerebro-vascular disease and aneurysmal disease are usually unacceptable risk factors though there may be occasional exceptions after successful treatment. Uncontrolled hypertension is unacceptable. Hypertension stable and controlled at or below 140/90 is acceptable. Postural hypotension, either spontaneous or related to treatment, is an unacceptable risk factor. Recurrent unprovoked loss of consciousness or impaired consciousness is unacceptable. Recurrent fainting occurring only with specific provocation (eg phlebotomy or dental treatment) is acceptable. Cardiac pacemakers used to treat isolated heart block do not necessarily constitute unacceptable risk. However, where the heart block is just part of significant ischaemic heart disease, then the ischaemic heart disease itself will usually be an unacceptable risk.

Stable, well controlled asthma is usually acceptable provided the treatment enables the candidate to exercise in cold air without significant symptoms (see more detailed advice at [www.britishskydiving.org/forms/](http://www.britishskydiving.org/forms/)). COPD limiting rate or distance of walking at ground level is usually unacceptable unless formal assessment by a respiratory physician has shown otherwise. In borderline cases, risk may be mitigated by restricting the maximum altitude to a specified lower level. If a candidate is not felt fit to go to at least 8,000 ft above sea level, the risk is unacceptable. A history of spontaneous pneumothorax is unacceptable unless successfully treated by pleurodesis or pleurectomy. A history of traumatic pneumothorax is acceptable provided recovery is complete.

Middle ear or sinus disease may cause severe otalgia or sinus pain due to the rapid changes in ambient air pressure. The rate of descent in freefall may exceed 10,000 ft/min and under an open canopy 1,000 ft/min. Severe pain can distract a skydiver from essential survival actions. Tympanic grommets or ventilation tubes are not a contraindication - they actually relieve pressure differentials as long as they remain in place. Otosclerosis treated surgically by stapedotomy is an unacceptable risk unless the ENT specialist specifically advises otherwise.

Impaired hearing is not be a barrier to skydiving, but the chief instructor must be informed of the impairment before skydiving commences.

Stable and well controlled diabetes with no tendency to hypoglycaemia is acceptable (eg diabetes controlled by diet or by metformin). Diabetic treatments with a tendency to cause symptomatic hypoglycaemia put the candidate at risk, particularly if combined with hypoxia at altitude, and are usually unacceptable. Candidates on treatments with *potential* for hypoglycaemia, *but who have not had it within the last 12 months, and who are able to comply with the same requirement for self-testing and recording that the DVLA requires for class 2 drivers* may be classed as acceptable extra risk. Self-testing should be performed no more than one hour before each takeoff. Other chronic endocrine conditions, once fully controlled, are normally acceptable.

Epilepsy occurring after the age of 5 years is an unacceptable risk. Normal peripheral sensation, co-ordination, power and immediacy of response are required for safe skydiving. Many chronic or degenerative diseases of the nervous system are unacceptable risk factors. Lower limb rigidity (whether due to arthropathy, spasticity, obesity or any other cause) greatly increases the risk of fracture and is an unacceptable risk. The presence of a surgical CSF shunt on its own is not an unacceptable risk. However, if accompanied by cerebral atrophy or a markedly enlarged head, specialist advice should be sought.

Current neurosis requiring active treatment, history of psychosis, subnormality, significant learning difficulties, cognitive impairment, frontal lobe syndrome, pathological euphoria, impulsive self-harming, drug addiction and alcohol dependence all usually constitute an unacceptable risk. Similarly, use of medication causing sedative or psychotropic side effects or impairing concentration is unacceptable. When an individual no longer has capacity to consent to risk, but is nonetheless intending to continue to jump, local safeguarding procedures should be initiated.

Expansion of gas in a viscus during the ascent to altitude can cause overfilling or separation of stoma bags. Starting with an empty bag and/or pre-emptive colonic lavage can reduce the risk of this social embarrassment. The candidate should take care with fitting of the parachute harness so that traction on the stoma bag can be avoided. Urinary catheters with leg drainage bags are usually unsuitable for use with a parachute harness. Removal of the drainage bag and spigotting of the catheter for the duration of the flight and jump may be acceptable provided there is still bladder capacity.

Recent surgery is an unacceptable risk until all wounds have healed enough to withstand rough treatment. If you feel the wound is not ready for a contact sport such as Rugby football, it is probably not acceptable for skydiving. Particular caution

is required after cranial, ophthalmic or thoracic procedures since any residual trapped gas will almost double in volume during the ascent to altitude but has no ready means of escape. Such residual gas is an unacceptable risk.

A history of malignant disease, particularly if well localised and outside critical areas, may not add significant risk. However, bony metastasis may cause an unacceptable risk of fracture. Cerebral primaries or secondaries may affect behaviour or even capacity to consent. Symptoms from treatments causing cardiac or pulmonary toxicity suggest unacceptable risk. Debility of widespread malignant disease is an unacceptable risk.

Even without skydiving, pregnancy inherently carries a risk of back problems, miscarriage, maternal haemorrhage and a risk of birth defects in the baby including brain damage. There are no published trials looking at whether the physical stresses of skydiving or the altitude hypoxia in the presence of asymptomatic placental insufficiency could alter the level of these risks significantly. Since any risk is unquantifiable, temporary and could affect not just the skydiver but also the person growing in the uterus, it should be assessed as unacceptable during the pregnancy.

Skydivers in perfect health are already at the limit of their physiological envelope when at 15,000 ft. Mild anaemia, causing no symptoms at ground level, may still cause light headedness or lack of stamina and reduced ability to obey commands when at altitude. Most blood donors will recover their normal haemoglobin levels within weeks of donation, but a few individuals with low iron stores may have a prolonged reduction. Donors should have a post donation blood count confirming normal haemoglobin before jumping at 15,000ft. Alternatively, they can jump at up to 8,000ft without a blood count, provided they are asymptomatic and at least 48hrs have passed since donation.

Organ transplantation itself is not a major risk. However, long term steroid treatment as part of immunosuppression may affect the likelihood of osteoporosis and fracture. Immunosuppressed patients should consider whether they wish to accept the risks of infection to a compound fracture contaminated by soil and animal faeces in a field.

Active or poorly controlled haemophilia, ITP, other bleeding disorders, coumarin anticoagulants or novel oral anticoagulants may increase the risk of haemarthrosis, haematoma, extensive bruising or other significant haemorrhage even in the course of a normal skydive. They may exacerbate simple injuries and also increase the risk of a skydiver succumbing to an otherwise survivable injury. Provided control appears stable, and an experienced jumper has been advised of the risks, this would be classified as acceptable extra risk.

Chronic infectious conditions such as open TB, Hepatitis or HIV may place 1<sup>st</sup> aiders at risk in the event of an injury requiring 1<sup>st</sup> aid or resuscitation. Please discuss with the British Skydiving medical adviser before issuing the medical certificate.

Increasing age often brings a combination of risk factors. Any one of these on its own might seem acceptable, but a combination of a number of individually acceptable risks may still amount to an unacceptable overall level of risk. There is no upper age limit for continuing to skydive. Older skydivers are injured more easily and are more likely to die from an injury, which a younger skydiver may survive. However, provided vision and cognition are unimpaired, and the candidate is advised of their extra risks, this is classified as acceptable extra risk.

**The advising doctor is not stating that a candidate will remain free of injury during skydiving but is simply giving a qualitative assessment of risk.** The preferred level of skill is usually that of a GP without specialist knowledge of skydiving but usually with access to the candidate's records, or a specialist responsible for the patient's care. Other doctors completing the certificate should remain aware that lack of access to the medical record can result in important conditions being overlooked. In cases of doubt, or where further information or discussion is required, the Medical Adviser to the British Skydiving or the Safety & Technical Officer will be pleased to help and may be contacted at the address at the start of this form.

Any medical certificate issued may be valid for a maximum of three years. The issuing doctor can specify any shorter period of validity that they consider clinically appropriate.

(This form is to be retained by the participant)

## LICENCED SKYDIVER DOCTOR'S MEDICAL CERTIFICATE

Name in CAPITALS \_\_\_\_\_ Date of Birth. \_\_\_\_\_

Weight KILOS \_\_\_\_\_ Height METRES \_\_\_\_\_ British Skydiving Membership Number \_\_\_\_\_

Doctor, please tick the appropriate box or boxes below and hand this page to your patient so that they have a clear record of your advice:

Having read the information for doctors on the preceding pages, I have assessed your risk as:

- No Extra Risk. Altitude not to exceed 15,000ft.
- Acceptable Extra Risk and skydiver aware. Altitude not to exceed 15,000ft.
- Acceptable Extra Risk if Chief Instructor is Informed:
  - Must use glasses / contact lenses
  - Hearing impaired
  - Limb weakness
  - Complete or partial limb loss
  - Altitude restriction:  8,000ft  10,000ft  12,000ft
  - Prejump blood glucose test required

.....  
 Unacceptable Risk. Should NOT jump  
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.....  
Signature

(Doctor's Personal Stamp or Legibly Printed Identification and Contact Details)

.....  
Date of Signature

.....  
Date of Expiry (3 years maximum)