SKYDIVE SAFETY LTD

To the skydiver (sport parachutist):

Having read Skydive Safety Ltd (SSL) Form 115A, if you have doubts about your fitness to do a tandem 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. The Parachute Training Organisation (PTO) you intending using may also be of help.

To the doctor:

STUDENT TANDEM 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 their Instructor is Informed. Some medical risk factors can be mitigated by the individual informing their skydiving instructor before training commences.
4. Unacceptable Risk. High risk of injury. Increased risk of major or incapacitating injury. Increased risk of death. Significant or unquantifiable risk to the skydiving instructor or others. You should advise your patient not to jump.

Student Tandem skydivers make descents from unpressurised aircraft at heights of 8,000 to 15,000 feet above sea level without supplementary oxygen. 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 skydivers will not normally be able to access medication or inhalers during the aircraft flight or skydiving descent. Student Tandem skydivers are strapped to an experienced instructor throughout the aircraft ascent and skydiving descent. The instructor and student share a common large parachute but only the instructor can open it or initiate any emergency procedures. Normal mental development and a stable mental state 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 the Tandem Instructor. The candidate must be able to understand what they are about to do and have capacity to give fully informed consent. During the parachute deployment there is a brisk deceleration, usually about 4g but occasionally in excess of 15g and with a rapid onset (jarringly hard). The landing impact typically involves a variable descent rate equivalent to jumping from a wall 0 - 4 feet high, with a horizontal speed of 0 - 15 mph. Sometimes the landing impact may be considerably greater than this and occasionally the full weight of the instructor may land on the student.

Cardiac and respiratory fitness is important. Ischaemic heart disease, cerebro-vascular disease aneurysmal disease and uncontrolled hypertension are unacceptable risk factors. Hypertension 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 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.

Candidates with traumatic tetraplegia may have reduced ventilatory capacity. The advising doctor should be satisfied that any impairment will not cause respiratory embarrassment at altitude. Stable, well controlled asthma is usually acceptable provided the treatment enables the candidate to exercise in cold air without significant symptoms, limiting rate ordistance 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 it has fully resorbed.

Musculoskeletal fitness is not required, and even paralysis or partial amputation of limbs is medically acceptable provided the instructor is aware and can take extra precautions before the jump. Unstable or dislocatable shoulders are particularly likely to dislocate again while skydiving. This is painful and risks further injury to the joint. The instructor can reduce the risk of this happening if they are informed before training commences.

Unstable spinal injuries or subluxation may be exacerbated by parachute opening forces or landing impact and are an unacceptable risk. Pre-existing spinal problems, joint injuries and arthritis can be exacerbated. Joint, tendon, cartilage or ligament repairs can be damaged, but this is less likely in a tandem jump than with any other form of skydiving, due to the descent and landing being controlled by a very experienced instructor. Osteoporosis increases the risk of injury both during parachute deployment and during landing. Previous fragility fractures of the spine or hip are 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.

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. 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.

Neither blindness nor deafness constitutes a barrier to Student Tandem skydiving, but the candidate must be capable of appreciating what is happening and of giving informed consent. Their instructor must be informed of the impairment before training commences.

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.

Stable and well controlled diabetes with little tendency to hypoglycaemia is acceptable. A tendency to recurrent symptomatic hypoglycaemia could put both the candidate and their instructor at risk and is unacceptable. Other chronic endocrine conditions, once fully controlled, are normally acceptable.

Epilepsy is an acceptable risk provided that control is good and there have been no fits or changes in medication in the last two years. A proneness to autonomic dysreflexia should be excluded in candidates with spinal injuries above mid-dorsal level, as it would be an unacceptable risk factor. Specialist advice should be sought in cases of doubt. Many neurodegenerative disorders are acceptable in their early stages unless respiratory impairment, postural hypotension, marked hesitancy or lower limb rigidity is present. Lower limb rigidity (whether due to arthropathy, spasticity, Parkinsons disease, 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, mental impairment, severe learning difficulties, severe cognitive impairment, pathological euphoria, drug addiction and alcohol dependence all constitute an unacceptable risk. When an individual does not have capacity to consent to risk but is nonetheless intending to proceed or is being encouraged by others to proceed, local safeguarding procedures should be initiated. Sometimes individuals with psychological difficulties plan to jump in the hope of boosting low self-esteem. If the candidate refuses to jump, often in front of relatives and friends, there can be a devastating impact on already poor self-esteem.

During the tandem jump, there is high speed airflow from the head of the tandem student, into the face of the instructor. In the event of vomiting due to motion sickness, nosebleeds from sinus problems or straining, expectoration of sputum or simple dribbling, the tandem instructor’s face is exposed to body fluids of the tandem student. Helmet visors provide only partially reduced exposure. Any infectious condition that may be transmitted in such a way would be an unacceptable risk.

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 inform their instructor of the position of the stoma and its bag, so that traction from the parachute harness can be avoided. Urinary catheters with leg drainage bags are 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. Advanced debility of widespread malignant disease is usually 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 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. They are usually an unacceptable risk.

Increasing age on its own is not necessarily a barrier to tandem skydiving if the individual is in good health. Some exceptional individuals are able to make a tandem jump even in their 90s. However, for many, 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. Older skydivers break more easily and are more likely to die from an injury, which a younger skydiver may survive. Some older candidates may still decide to accept this risk to themselves, but if you feel that cognitive impairment impedes their capacity to make this decision, you should advise them not to jump and, if necessary, initiate safeguarding procedures.

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 is required, the PTO's own medical advisor may be pleased to help and may be contacted by speaking to the PTO you intend using.

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.

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(This form should be presented to the Parachute Training Organisation (PTO) by the Participant in person immediately prior to the commencement of their training - it should NOT be sent to Skydive Safety Ltd)

STUDENT TANDEM SKYDIVER DOCTOR'S MEDICAL CERTIFICATE

Name in CAPITALS _____ Date of Birth._____

Weight KILOS_____ Height METRES

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 Instructor is Informed:

- ☐ Dislocatable shoulder
- ☐ Limb weakness/paralysis
- ☐ Complete or partial limb loss
- ☐ Vision impaired
- ☐ Hearing impaired

Altitude not to exceed ☐ 8,000ft ☐ 10,000ft ☐ 12,000ft ☐ 15,000ft

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☐ Unacceptable Risk. Should NOT jump

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

.....
Signature & Printed name of Doctor

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