



SAFETY IN AEROBATICS

GREY-OUT, BLACK-OUT AND G-LOC: TIPS TO HELP REDUCE THE RISK



WEATHER CONDITIONS

- Heat can cause dehydration – drink water regularly, optionally add electrolyte replacements
- Avoid staying in the sun – apply sun protection and put on a hat
- Stay in a cool place before your flight – shade, room with A/C

PREPARE YOUR BODY AND MIND

- Exercise regularly – keep fit – interval training, hiking, strengthen your abdominal muscles
- No alcohol, no drugs, medications compatible with aerobatics flying only (if in doubt check with MD)
- Don't fly if you are not well, have a cold, feeling sleepy, just after eating while still digesting
- Avoid designing long negative and then positive g-load combinations
- Know which figures are prone to g-loc, grey-out or black-out and prepare, g-loc can happen very quickly in flight without physical warning

BEFORE YOUR AEROBATIC FLIGHT

- Comfort break
- Put on your aerobatics outfit – allows free movement, sleeves don't catch, loose items, if any, in securely closed pockets, compression socks can help
- Dedicate at least 10 minutes to prepare your body mentally and physically
- Stretching, breathing exercises, warm-up exercises, mental preparation
- Make sure you are hydrated - have somebody give you water while strapping in
- Plan meals and pre-flight snacks to maintain your physical and mental energy during the flight, preferably slow-digesting carbs, avoid fast sugars. If in doubt seek advice from your coach or a dietician.

DURING YOUR AEROBATIC FLIGHT

- Use Warm-up and Safety maneuvers to accustom your body to g-loads, include alternate turns *
- Anticipate positive g-loads, known techniques are tightening the muscles of the abdomen/diaphragm and blocking your breath for a brief period, repeat as needed
- Be careful after prolonged negative g-load figures, example long negative line - negative spin to positive P-loop
- Stop your flight immediately if you doubt your g-resistance, experience grey-out/black-out and/or disorientation/confusion or you do not feel well
- Don't extend your training flight unnecessarily, shorten flight if high outside temperatures
- Give yourself time to prepare for the landing – it is a crucial phase of the flight

Disclaimer: These tips help the pilot to prepare for and to anticipate the effects of g-loc, grey-out/black-out and make him/her aware of the danger of these effects. The recommendations in this flyer are not exhaustive and, if followed, do not guarantee that the pilot will not experience g-load effects. If unsure about any of the recommendations, discuss with your coach or seek professional/medical advice. * Refer to SC6 P1 3.9. for permitted warm-up and safety maneuvers in power aerobatics.

Sources: "Les 10 commandements du Doc" and "Le voile en voltige aérienne" by Dr. PH Deschamps-Berger, Patrick Paris - Coach French Unlimited Team, Nicolas Ivanoff – Coach French Advanced Team, "Exercices de renforcement musculaire pour la pratique de la voltige aérienne", Alexandre Orłowski and Sandrine Lacaille, « Gs and Aerobatic Pilots » by R.E. Van Patten Ph.D., P.E., websites and publications by the Fédération Française Aéronautique FFA – France and The International Aerobatic Club IAC – USA