

## 2002 Incident Analysis Report

Following the Foot and Mouth crisis last year it was expected that during the 2002 season we would see a dramatic rise in accidents as rusty pilots took to the air again. Fortunately all the predictions seemed to have been incorrect as the numbers of reports received are similar to those in pre F&M years (172 reports entered on the database at the time of writing).

Before going further it's worth clarifying that the database is used to record all the IR forms we receive. Not all of the 172 reports entered on the database are reports of accidents (ie events where injury or damage has occurred.) A good number of reports highlight equipment failure, faulty equipment, airmisses or other occurrences *'that could, in less favourable circumstances, have resulted in an accident'* Of the 172 reports, 82 highlighted these sorts of 'incidents', 16 detailed accidents that only involved damage, 9 detailed accidents that resulted in damage and injury, whilst 65 detailed accidents that involved injury alone.

### Causes of Accidents

As you may be aware, the BHPA has worked closely with other European nations to develop a harmonised accident/incident database, which will enable us to share information. As this comes on line it should, by accessing thousands rather than a few hundreds of reported occurrences, be possible to produce meaningful statistics – and to identify the common causes of accidents. (In reality virtually all accidents can be attributed in some way to 'pilot error', but this is not very helpful when trying to analyse precisely where or why people are going wrong.) The European database has 20 fields for causal factors. The following table uses the European database fields that focus on human and environmental factors, and shows this year's BHPA incidents and accidents involving rated pilots. (When looking at these numbers you should bear in mind that some accidents are attributed more than one causal category.)

Human Factors	CP	P	AP
Pre-flight Check (omission)	8	7	0
Controlling Glider (error)	14	9	1
Judgement Position (error)	16	7	3
Pilot Incapacity	0	1	0
Awareness (lack of situational awareness)	12	7	2
Risky Mindset	4	3	0
Environmental Factors	CP	P	AP
Unsuitable Site	2	3	1
Judgement Weather (error)	14	11	1
Judgement Orography (misjudging airflow around terrain)	3	3	1
Judgment Wind Gradient (error)	1	2	1

There were 31 incident reports involving equipment. Several of these were the result of pilots adjusting various bits of kit, only to discover during their next flight that the bit of kit in question no longer functioned as it was intended. Before altering any of your flying equipment consult with the manufacturer; it may be that adjustments to your glider take it out of its certified spec, or even worse turn a safe aircraft into a lethal aircraft!

## Who is having Accidents?

### PG/HG ?

The ratio of rated PG pilots to HG pilots at the time of writing is 2.7:1, however the ratio of reported occurrences is 2.2:1 PG:HG. The table below shows this relationship over the past six years. It's important to note that the information contained in this table only refers to members with a CP rating and above.

	1997	1998	1999	2000	2001	2002
M/ship ratio PG	2.2 : 1	2.2 : 1	2.5 : 1	2.5 : 1	2.6 : 1	2.7 : 1
Reports rx ratio PG : HG	1.6 : 1	2.2 : 1	2.1 : 1	1.9 : 1	1.9 : 1	2.2 : 1
<b>Ratio of injuries PG : HG</b>						
Minor	1.2 : 1	2.1 : 1	1 : 1.4	1 : 2.3	3.5 : 1	2.5 : 1
Serious	2.1 : 1	5.3 : 1	4.6 : 1	6 : 1	2.7 : 1	2.2 : 1
Fatal	0	2 : 1	3 : 1	7 : 1	0 : 1	4 : 1(phg)
None / not indicated	1.4 : 1	1.2 : 1	1.5 : 1	1.4 : 1	4.3 : 1	2.3 : 1

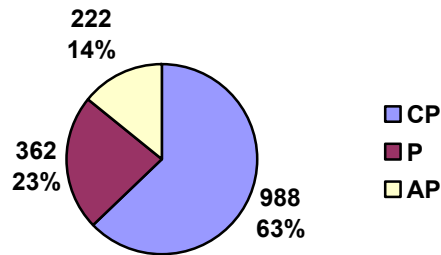
No doubt the argument as to whether paragliding is more dangerous than hang gliding will rage on into the distant future. The table above attempts to shed some light on what's really happening. However, it's important to bear in mind that the numbers involved are very small (for example a typical year will see around 50-60 HG occurrences) and a large proportion of the IR's received are incomplete (often no discipline is indicated). With such small numbers it would be unwise to attach any real significance to the statistics.

An interesting thing to note from the table is that the proportion of the PG membership that sent in IR forms is actually lower than the proportion of the HG membership. However, in all but two years the proportion of PG's involved in 'Serious', and 'Fatal' incidents is considerably higher than the HG's.

### Ratings

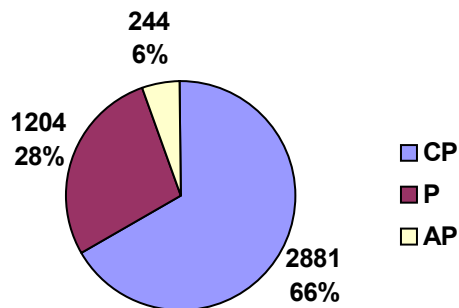
I've included two pie charts to enable a quick visualisation of membership breakdown per rating. The greatest proportion of accidents occurring in both disciplines are to CP rated pilots, which is to be expected as they constitute the largest portion of the membership. However, the division of incidents does not exactly mirror the division of member's ratings. In both disciplines the portion of accidents occurring to 'Pilot' rated pilots is higher than the proportion of the membership with that rating. Again, with such small numbers it would be unwise to attach any real significance to this statistic.

### Total HG Ratings



Of the 988 'CP' rated hang glider pilots 10 (1%) were involved in accidents that resulted in injury. 9 (2.5%) 'P' rated hang glider pilots were injured, as was 1 (0.45%) 'AP' rated pilot.

### Total PG Ratings



Of the 2881 'CP' rated paraglider pilots 18 (0.6%) were involved in accidents that resulted in injury. 14 (1.2%) 'P' rated paraglider pilots were injured. No (0%) 'AP' rated pilots sustained injury.

### Accident analysis / discussion

In 2002 there have been four paragliding fatalities. Three of these involved low level canopy collapses. The fourth resulted from the pilot failing to reach his intended landing field; he unfortunately landed in the sea and drowned just a few metres from shore. The powered hang gliding fatality resulted from the pilot colliding with power cables following launch. Two of the paragliding fatalities occurred in Spain. In total there were thirteen incident reports that detailed incidents occurring abroad, and as more pilots are taking flying holidays abroad it would be no surprise if this number increased over the coming years.

There was a worrying increase in the number of reported mid-air collisions this year with 6 reports received (ie.12 aircraft). One pilot sustained serious injury – which means that several of the others were very lucky! These midair collisions involved 9 paragliders, 1 hang glider, and 2 models. The hang glider pilot was in collision with one of the models, the other model impacting one of the paraglider's lines. In the incidents involving paragliders colliding, the pilots had insufficient room to take avoiding action by

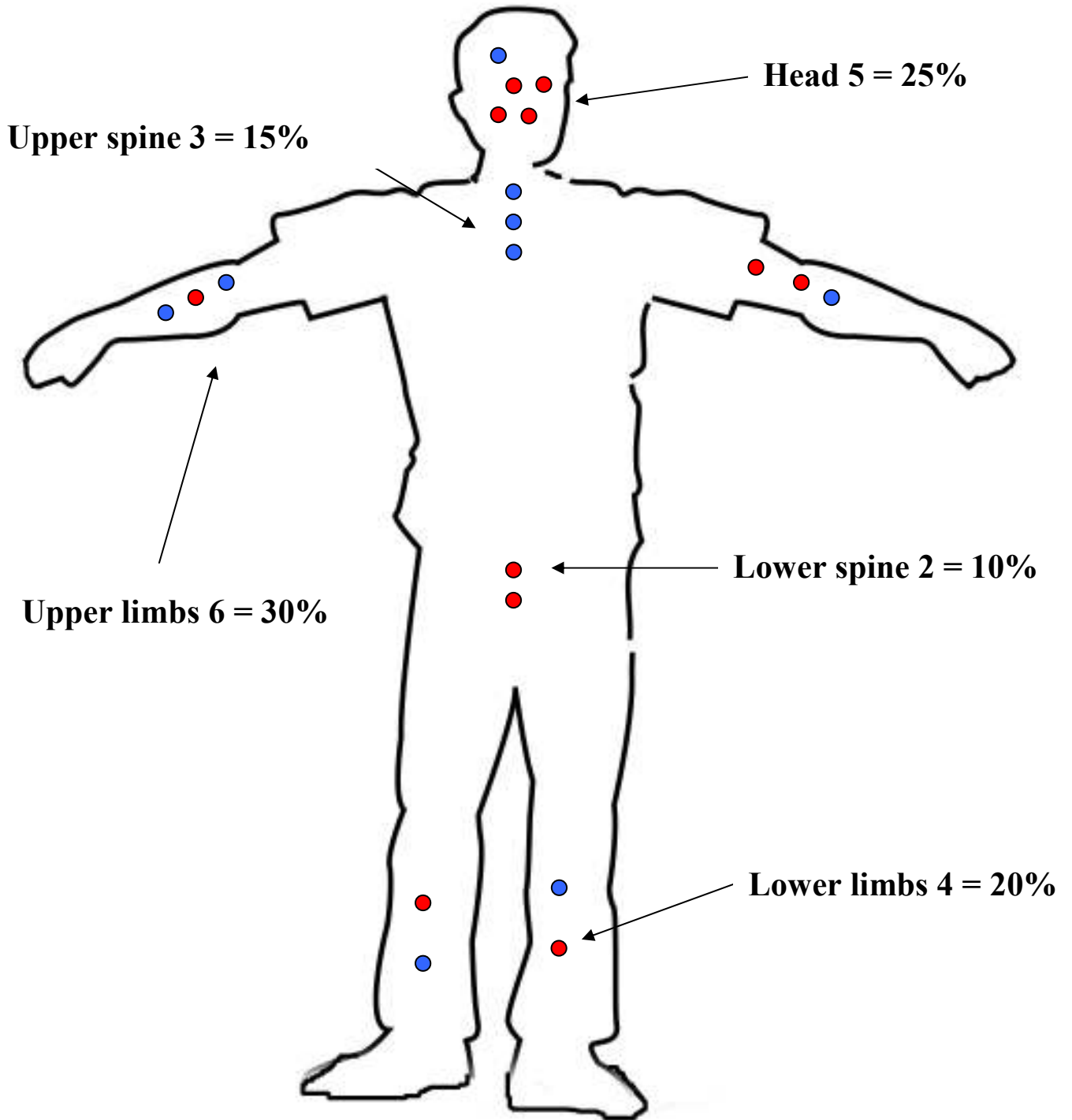
the time they'd realised that a collision was imminent. This would seem to indicate that some paraglider pilots are not maintaining adequate situational awareness and / or have a mistaken impression of the size of 'acceptable separation distance' that they must maintain. Remember that it's the pilots responsibility to take all possible measures to avoid a collision. A small manouvre early on which prevents a situation developing is far far better than a radical turn when you are eye-ball to eye-ball. (And more likely to work!) If conditions are crowded then stay on the ground regardless of your eagerness to fly. Another glider in the air will simply worsen the problem.

There were 5 reported emergency parachute deployments this year, 2 of these were accidental. Of the three intentional deployments two followed low-level collapses and one was as a result of line failure during aerobatics(!?!). Of the accidental deployments one involved a HG on tow, and the second a paraglider; both followed recent repacks.

### **Injury**

52 of the accidents involving qualified members in some injury to the pilot. The diagrams below illustrate where on the body these injuries occurred.

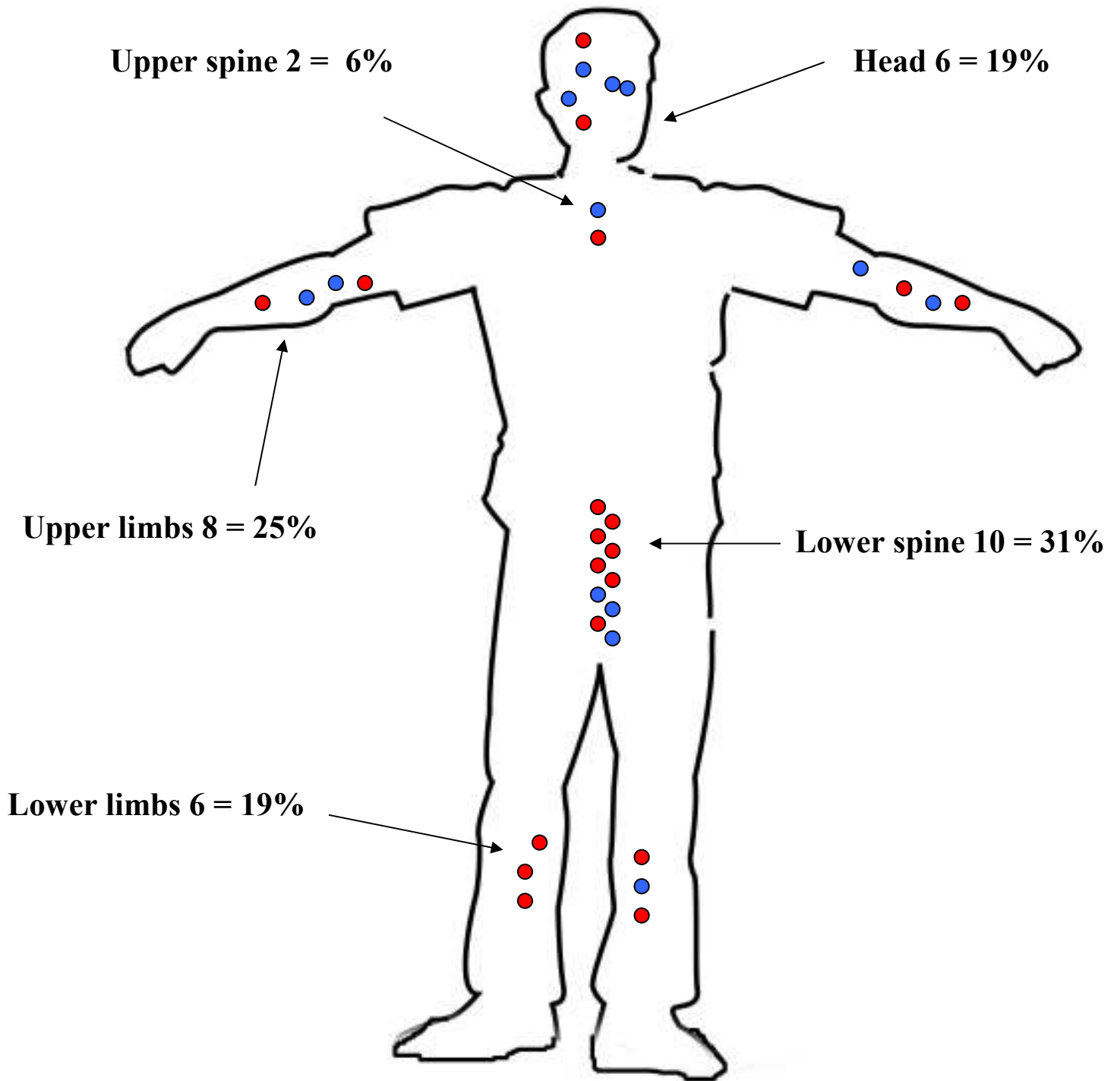
**Distribution of HG injuries (CP and above)**



● Serious

● Minor

# Distribution of PG injuries (CP and above)



● Serious

● Minor

**Incidents/accidents occurring in schools**

There were 29 reported occurrences in schools, with 22 students sustaining injury. During the year 4084 Introductory Memberships, 555 Training Memberships, and 1,106 first-time Full Annual memberships were processed. A further 100 - 200 students will have trained under 'Block Insurance' and similar protocols, along with a few hundred Scouts. So in total, over 6000 students will have received some training.

The following table gives a breakdown of these occurrences.

	PG	HG
Number of occurrences	20	9
Injuries to students		
Minor	10	4
Serious	5	3
None	5	2

**To finish**

Finally I'd like to thank all pilots who submitted Incident Report forms. These forms are our only means of identifying incident trends, and so enabling us to keep the membership informed when hazardous equipment or procedures come to light. With this in mind I'd like to stress the importance of completing the form as fully as possible. Parts of the form may not appear particularly relevant to your particular incident: even so such information may be of vital importance when the accident panel attempt to produce meaningful accident statistics, and will almost certainly be so when pan European accident/incident analysis comes on line.

Remember: Accidents don't just happen: they are caused.

Fly Safely.

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