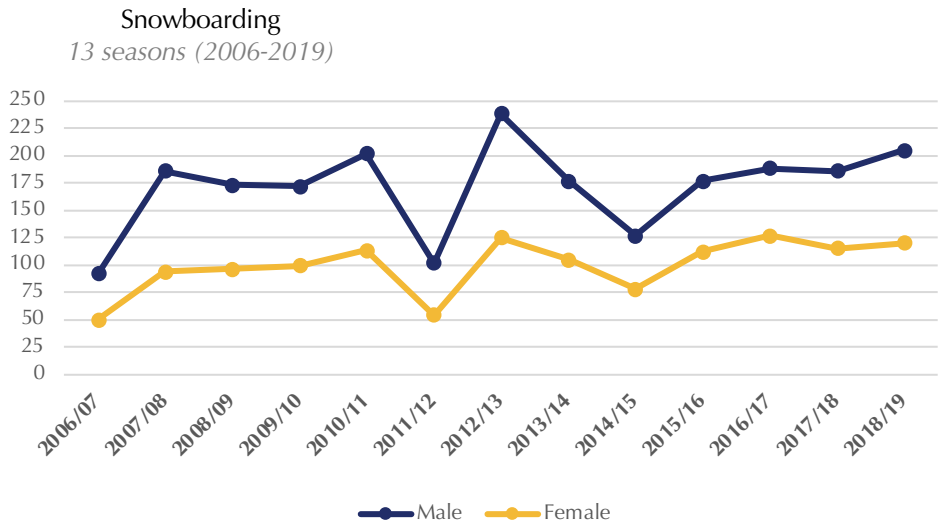
FIS Injury Surveillance System

Snowboarding Injury Profile (2006-2019)

Injury Profile (n = 1,276 injuries)

Key injury pattern: Upper extremity and ankle prominence, with relatively lower knee share. The injury map shifts fundamentally from the lower extremity pattern seen in skiing disciplines.



Injury Location

Snowboarding's anatomical distribution differs markedly from all skiing disciplines. The **knee**, while still relevant at 16.1%, is **not the primary driver** as it is in skiing disciplines. Instead, **shoulder and clavicle injuries lead at 14.3%,** followed closely by **head/face** at 13.3%.

Three anatomical fingerprints are particularly striking:

- Ankle injuries at 11.2%,
- Wrist injuries at 4.6%, and
- Foot injuries at 5.3%.

Injury Severity

Snowboarding shows the **lowest severe injury proportion (32.0%)** among the major disciplines. Conversely, it has **the highest "no absence" rate at 18.4%.**

Body Region	No Absence	1-3 Days	4-7 Days	8-28 Days	> 28 Days*
Head/Face	13.10%	13.10%	26.30%	30.60%	16.90%
Neck/Cervical	38.90%	16.70%	0.00%	22.20%	22.20%
Shoulder/Clavicle	18.30%	8.90%	15.00%	20.00%	37.80%
Upper Arm	7.70%	0.00%	0.00%	15.40%	76.90%
Elbow	32.10%	7.10%	7.10%	14.30%	39.30%
Forearm	5.90%	0.00%	23.50%	5.90%	64.70%
Wrist	37.90%	10.30%	17.20%	17.20%	17.20%
Hand/Finger	42.90%	15.70%	11.40%	21.40%	8.60%
Chest/Ribs	20.70%	15.50%	10.30%	25.90%	27.60%
Abdomen	0.00%	22.20%	33.30%	33.30%	11.10%
Back/Pelvis	25.90%	12.60%	14.80%	23.70%	23.00%
Hip/Groin	22.00%	14.60%	17.10%	29.30%	17.10%
Thigh	30.80%	15.40%	15.40%	7.70%	30.80%
Knee	8.60%	5.60%	8.60%	21.80%	55.30%
Lower Leg/Achilles	8.80%	2.90%	8.80%	8.80%	70.60%
Ankle	9.30%	7.90%	15.00%	32.90%	35.00%
Foot/Toe	28.10%	6.30%	7.80%	25.00%	32.80%
TOTAL	**18.4%**	**9.6%**	**13.9%**	**22.9%**	**32.0%**

** >28 days: Severe injury*

While **knee injuries** are less frequent, they remain severe when they occur: of 205 knee injuries, 109 (**55.3%**) result in **more than 28 days absence**. Shoulder injuries show similar severity: 68 of 183 (37.8%) are severe. Ankle injuries, though frequent, show a mixed severity profile with 49 of 143 (35.0%) being severe.

However, this relative advantage should not be overstated: **nearly one in three snowboarding injuries still results in more than 28 days of absence**, and **54.9%** cause **more than one week** of time loss.

Injury Type

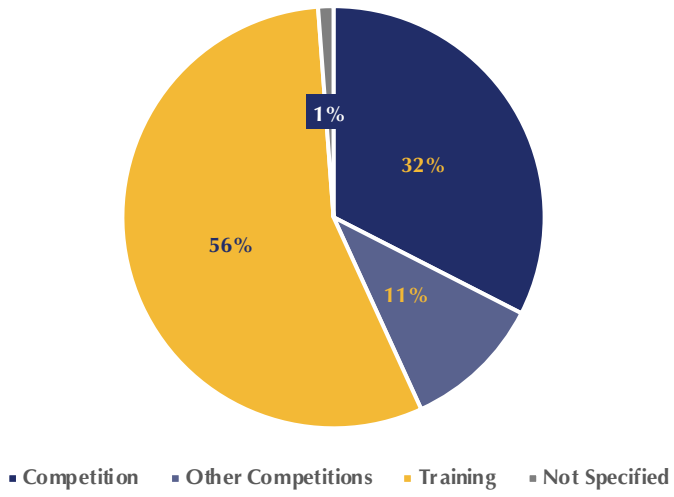
Snowboarding has the **highest proportion of fractures among all disciplines at 27.0%.**

The **concussion and contusion rates (12.7% and 11.7, respectively)** are substantially higher than other disciplines. Interestingly, joint and ligament injuries, while still the largest category at 33.8%, are proportionally much lower than other disciplines.

Injury Type	Count	Percentage
Joint/Ligament	431	33.8%
Fracture/Bone Stress	345	27.0%
Muscle/Tendon	162	12.7%
Concussion/Nervous System	150	11.7%
Contusion	147	11.5%
Skin/Laceration	11	0.9%

Injury Circumstances

Snowboarding has the **highest training injury proportion at 55.6%**.



The "**Other Competitions**" category (10.7%) is also notably high, likely reflecting injuries in events such as X Games, and other non-FIS competitions where elite snowboarders compete.

Key Takeaways for Prevention Focus

- **Upper extremity** focus, shoulder (14.3%) and wrist (4.6%) protection, alongside **ankle** (11.2%) and **head** (13.3%) injury prevention. The injury pattern requires a tailored prevention framework.
- The **high fracture rate (27%)** and **training injury proportion (56%)** point toward **high-energy impacts** against hard snow in slopestyle, halfpipe, and snowboard cross environments, and **training** environment safety as priorities.
- The **high training injury circumstance** likely reflects the sport's **emphasis on trick progression**, where athletes must repeatedly attempt new manoeuvres to advance. The learning curve inherent to snowboarding's acrobatic elements generates substantial training exposure and associated injury risk.
- Compared to other disciplines, the **high ankle and foot injury rates** may emphasise the softer and more flexible boot system that trades protection for mobility.