



Athlete health survey

Data collected and analysed by Siret Luik

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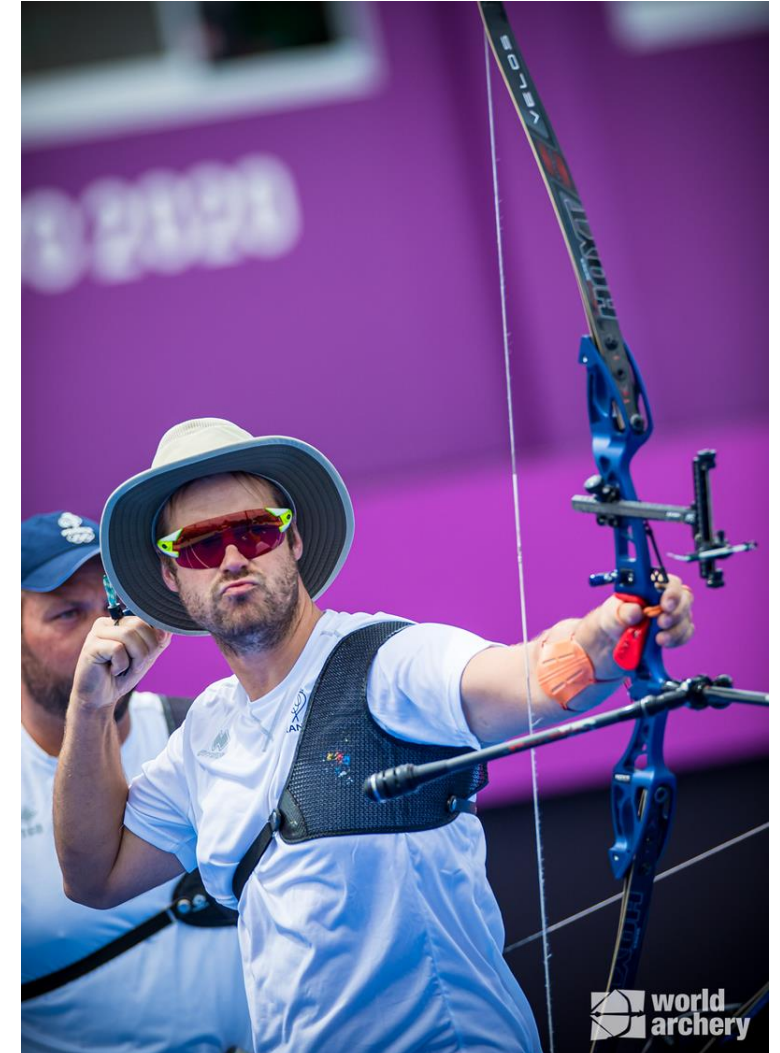
Introduction



Method of the data collection

Survey info

- Fully online, using SurveyMonkey platform
- Survey opened for three weeks period
- No anonymous answers, only countries who have had team competing in the world championships or Olympic Games in past Olympiad (2017-2021) were invited to answer
- Data was asked about senior level national team for target archery - recurve and compound
- Consists of questions asking about:
 - General federation info (who is submitting)
 - About the size of national team in past
 - Injuries: frequency, area of the body, cause and recovery and if any difference between genders



Method of the data analyse

Survey info

- Only fully filled in questionnaires are included in the analyse (25 out of 44)
- Most of the questions allow to analyse data separately for recurve and compound
- As the size and the level of professionalism of teams varies strongly, the data is presented in two different versions to identify if there is any difference:
 - All answers (total 24 teams)
 - Answers from teams who medalled in Tokyo (4 out of 9 countries)
- The weighted average of answers is indicated.



Survey info

- To calculate weighted average following scale was used:

1 - never

2 – rarely

3 – sometimes

4 – quite often

5 – very often





Participating countries

Following 25 countries submitted the data:

Blue – Medal in Tokyo

Green- Tokyo participation

Black – World Championships participation

AUS
AUT
BAR
CHN
ESP
GBR
IRI
IRQ
ISL

ISR
ISV
ITA
JPN
KOR
MDA
NZL
POL
RSA

SLO
SVK
SWE
TJK
TTO
TUR
USA

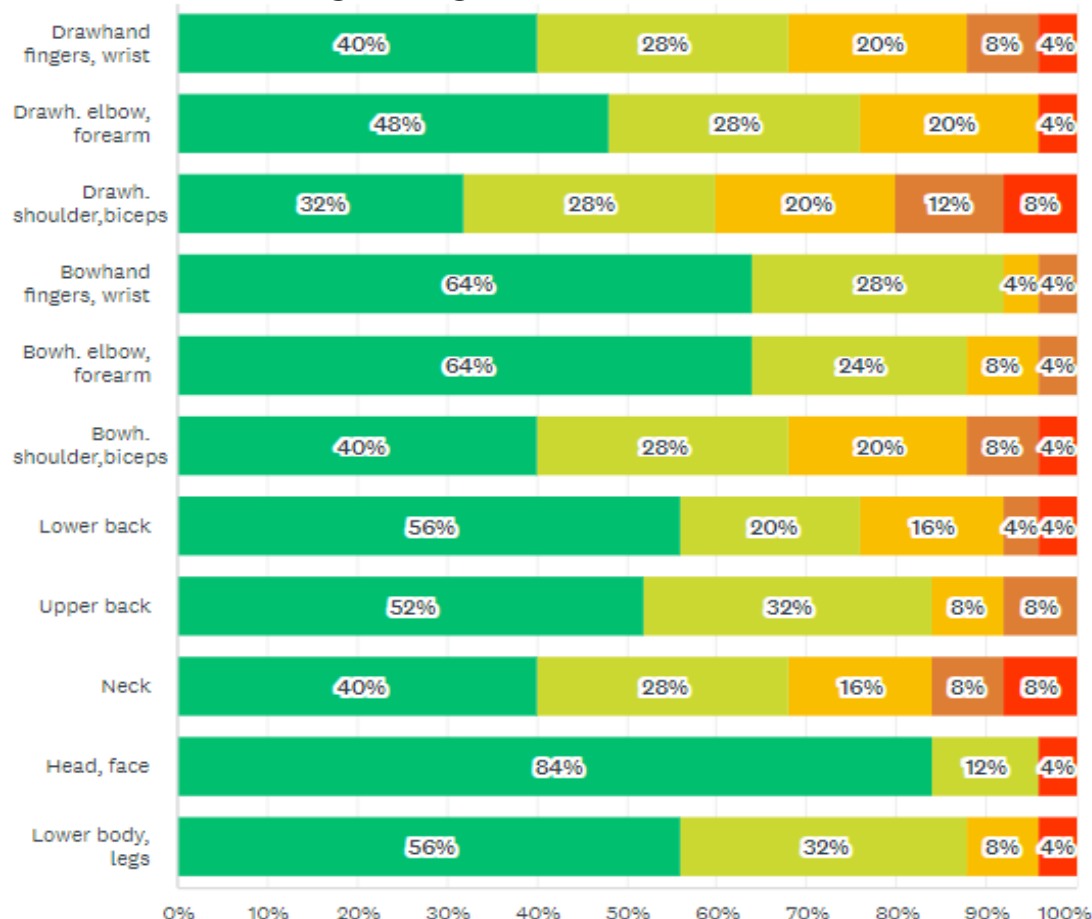


Results



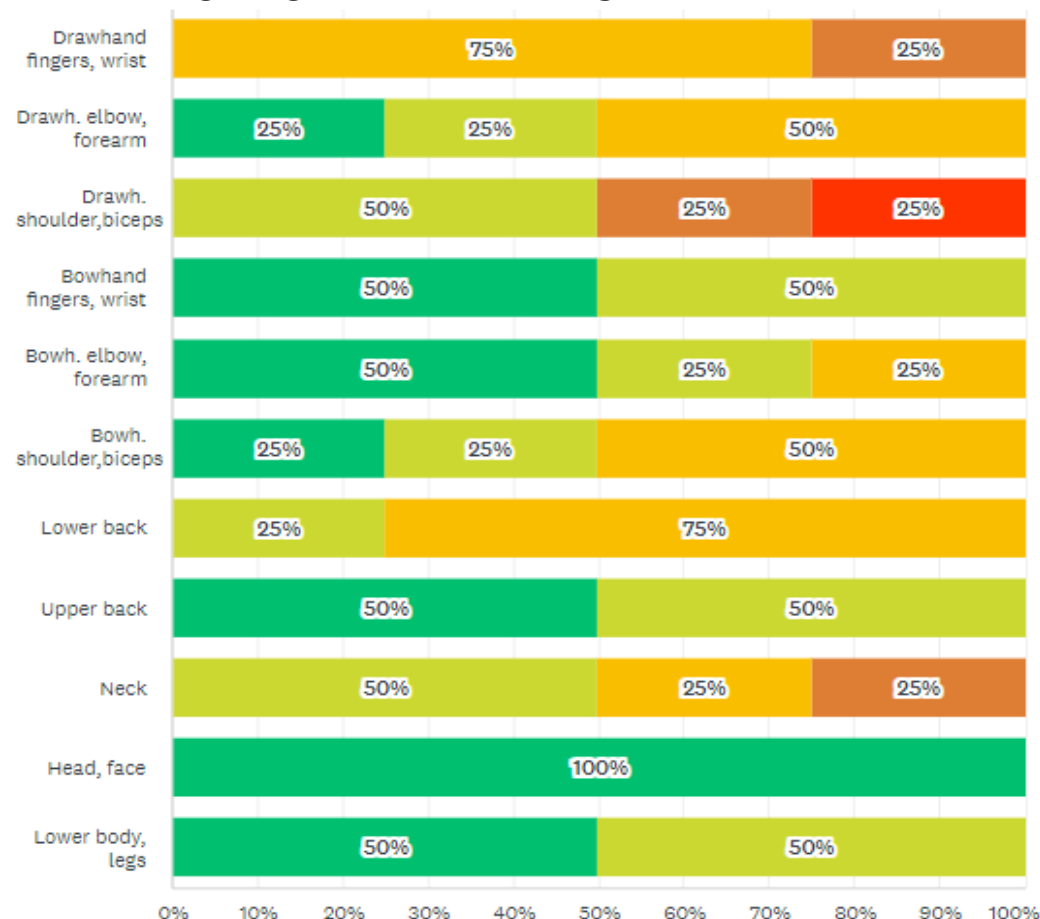
Area of injuries

ALL ANSWERS



■ Never
 ■ Rarely
 ■ Sometimes
 ■ Quite often
 ■ Very often

TOKYO MEDAL TEAMS



Area of injuries

Based on weighted average (1=never; 5 = very often)

ALL ANSWERS

2,36	Drawhand shoulder and biceps
2,16	Neck
2,08	Drawhand fingers and wrist
2,08	Bowhand shoulder and biceps
1,84	Drawhand elbow and forearm
1,8	Lower back
1,72	Upper back
1,64	Lower body and legs
1,52	Bowhand elbow and forearm
1,48	Bowhand fingers and wrist
1,28	Head and face

TOKYO MEDAL TEAMS

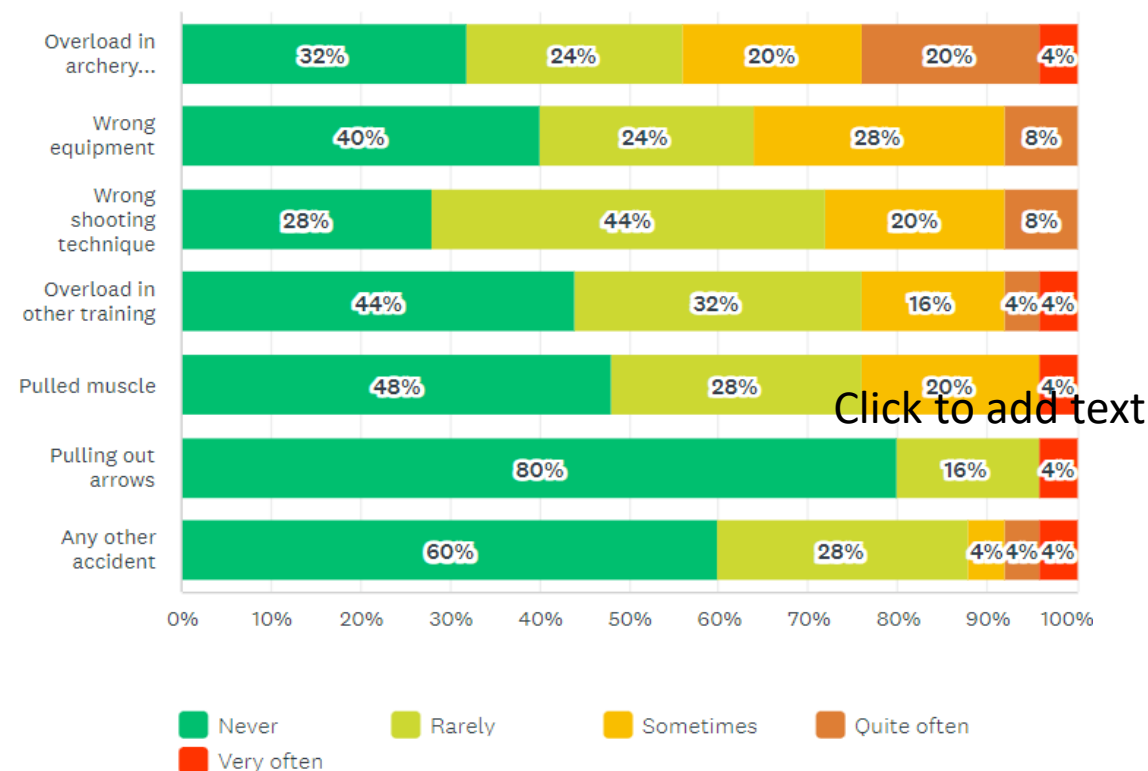
3,25	Drawhand shoulder and biceps
3,25	Drawhand fingers and wrist
2,75	Lower back
2,75	Neck
2,25	Drawhand elbow and forearm
2,25	Bowhand shoulder and biceps
1,75	Bowhand elbow and forearm
1,5	Bowhand fingers and wrist
1,5	Upper back
1,5	Lower body and legs
1	Head and face

Conclusion:

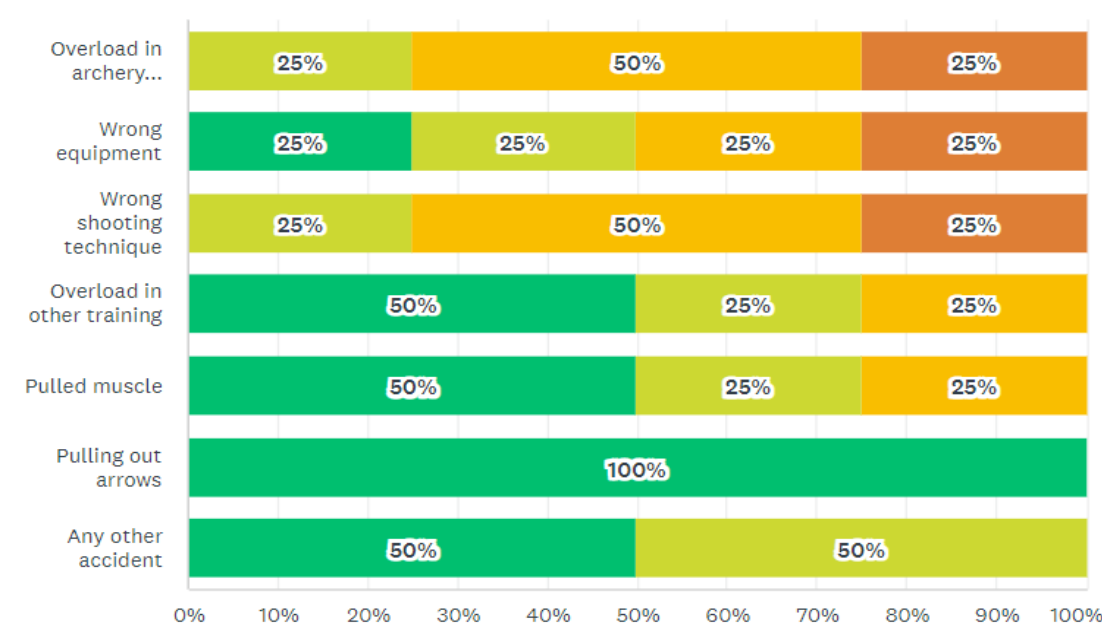
Drawhand fingers and wrist are identified as the most common area on archers body to be injured. In general, the drawhand side is more likely to suffer from injuries than the bowhand side. There was slightly different opinion between groups regards lower back. Overall, neither of the groups weighted average passed 3,5 mark, so all areas were still marked as “sometimes”, “rarely” or “never”.

Supposed cause of injuries

ALL ANSWERS



TOKYO MEDAL TEAMS



Supposed cause of injuries

Based on weighted average (1=never; 5 = very often)

ALL ANSWERS

2,4	Overload in archery training
2,08	Wrong shooting technique
2,04	Wrong equipment
1,92	Overload in other training
1,84	Pulled muscle
1,64	Any other accident during practice or competition
1,32	Accident while pulling out arrows

TOKYO MEDAL TEAMS

3	Overload in archery training
3	Wrong shooting technique
2,5	Wrong equipment
1,75	Overload in other training
1,75	Pulled muscle
1,5	Any other accident during practice or competition
1	Accident while pulling out arrows

Conclusion:

The order of answers based on weighted average is exactly the same. Difference is that teams which got medals in Tokyo estimate the frequency of main reasons slightly higher (“sometimes” instead of “rarely”). All top reasons are generally preventable.

Consequences of injuries

<i>Data based on 5 year period (last Olympiad)</i>	Recurve (25 teams)			Compound (21 teams)		
	Number of teams reporting cases	% of teams reporting cases	How many times happened total in Olympiad?	How many teams reported		How many times total?
Retired due to injury	7	28 %	12	2	10 %	2
Surgery	6	24 %	8	2	10 %	2
Stop shooting for more than 1 month	11	44 %	30	4	19 %	5
Stop shooting for 2-4 weeks	11	44 %	33	8	38 %	13
Stop shooting for up to 2 weeks	14	56 %	36	8	38 %	13
Reduce shooting load	20	80 %	65	9	43 %	20
Pain medication or any prescription medicine	16	64 %	69	8	38 %	30

Remarks:

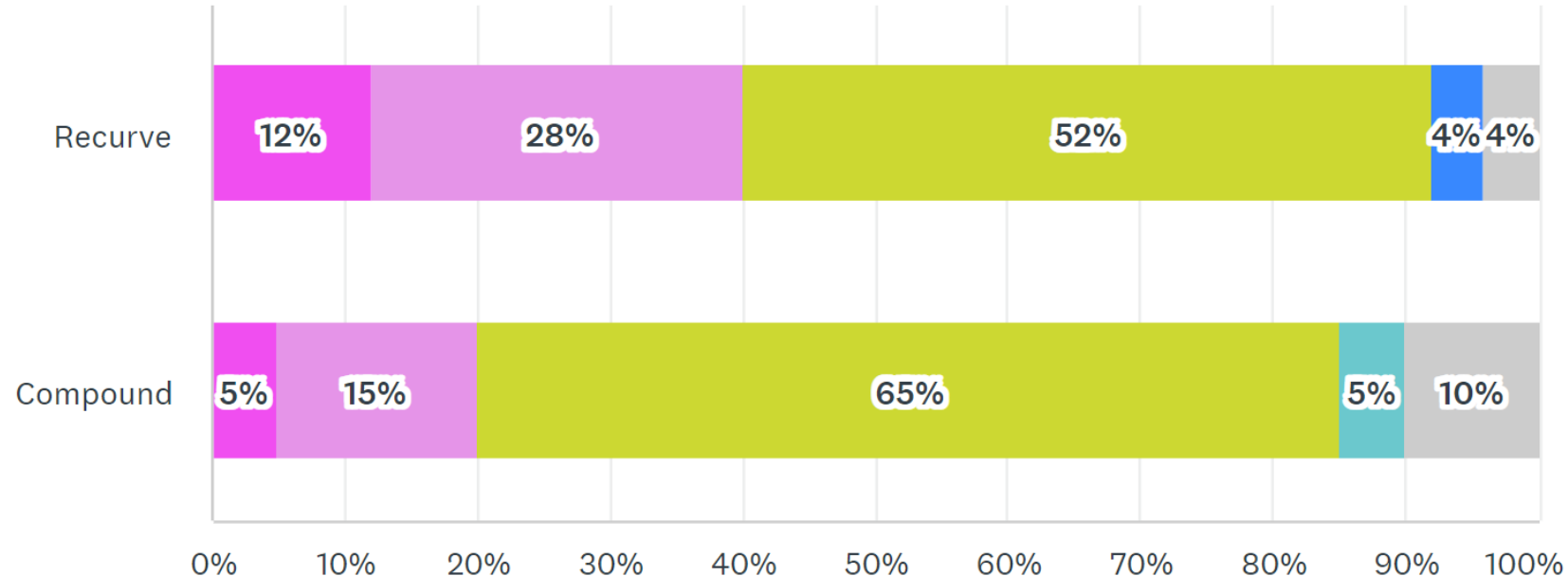
The number of cases is probably lower due to compound teams being generally smaller than recurve teams (reflects also on event participation). However, to understand this difference in statistics better, further and more detailed study would be needed. More about surgeries on next slide.

Number of reported surgeries during 5 year period from Rio until Tokyo Olympics among 24 countries was total of 12 for recurve teams and 2 for compound teams.

However, surprisingly large part of these surgeries was reported to **non-archery related problems** (most often knee traumas from other sports, 3 times).

Reported **archery-related injuries** resulting in surgery were usually with experience high level athletes who have been in sport for more than 10 years and most often affecting drawhand shoulder.

Difference in injuries occurring based on gender



Majority with women – **Slightly more with women** – **Equal** – **Slightly more with men** – **Majority with men**

Do not have a team or team only with one gender

Conclusion:

Strong majority (52-65%) of teams report that there is no significant difference between genders for injuries occurring. Although there were teams reporting opposite conclusions, the tendency for women to have more injuries was reported more often (20-40%).

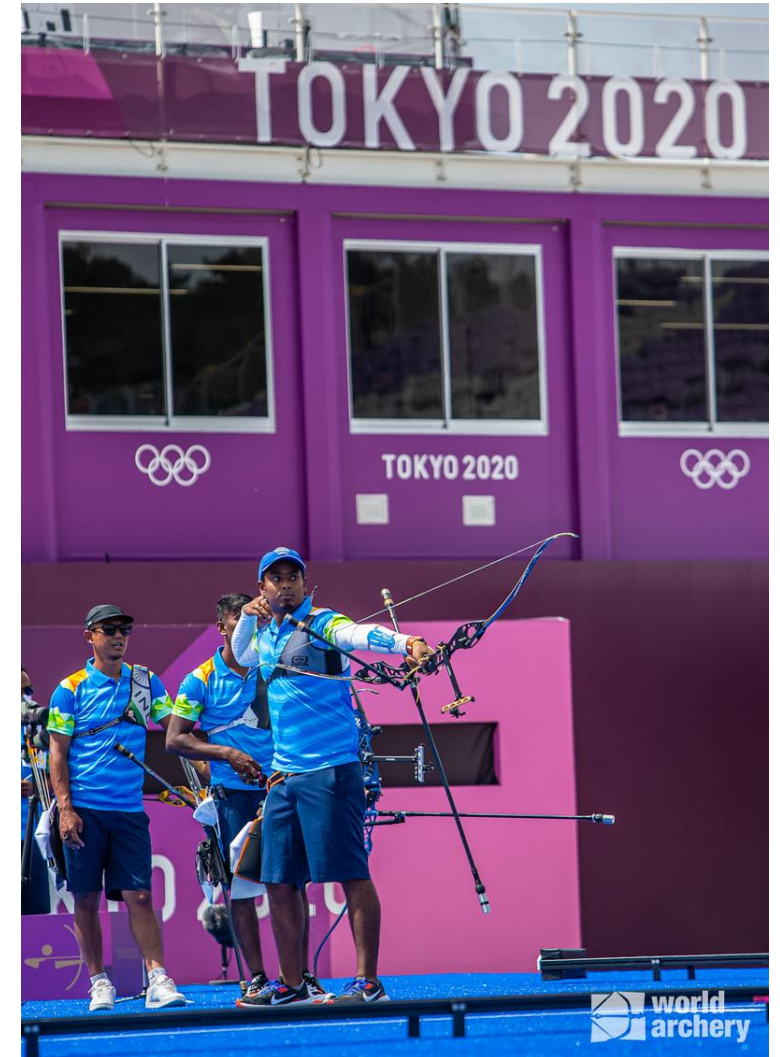


Summary

Summary

Based on the online survey World Archery conducted among teams from 24 countries:

- Archery is not a contact sport, therefore very low number of reports on injuries. From the scale of “never” to “very often”, only few types of injuries were reported as “sometimes” or “rarely”.
- The main reasons for injuries are overload in archery training, wrong shooting technique and incorrect choice of equipment (too strong or heavy bow).
- This means that with continuous strong preventative work and high quality education of coaches, higher number of injuries could be avoided.



Summary

- The most effected areas of athletes body are drawhand shoulder, wrist and fingers.
- The number of reported surgeries during 5 year period from Rio until Tokyo was total of 12 for recurve teams and 2 for compound teams.
- There is number of athletes who have been forced to retire due to injury and for that World Archery has still work to do to promote prevention of injuries.



Summary

- During Tokyo Olympic Games there was no directly archery related injuries reported, however one of the athletes suffered the consequences of a heat stroke on the field of play despite the measures in place (tents for shadow and ice and cold water in the freezers).
- Majority of teams reported that gender does not play a role in the frequency of injuries occurring. However, the teams who did not agree indicated tendency towards women to have injuries more often.

