

Concussions From Foul Tips and Backswings: Catchers' Perceptions of and Experiences with Conventional and Hockey-Style Masks

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Gary Green, Keshia Pollack Porter, Stan Conte, Alex Valadka, Lonnie Soloff, Frank Curriero: *Clin J Sport Med* 2018;00:1-7



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Jorge Alfaro

- Catchers a high risk position for concussions
- In addition to collisions, close to half result from foul tips and backswings



Gerald Laird/Corey Dickerson

Conventional Style



Hockey Style



- Catcher survey in 2015
- Understand preference for mask type and perceptions regarding safety, comfort, & fit
- N = 596 surveyed (71% response rate)
- HITS 2015 catcher concussion analysis

Conventional Style



Hockey Style



- Before professional baseball:
 - 59% used conventional-style
 - 42% used hockey-style
- Within professional baseball:
 - 71% used conventional-style
 - 30% used hockey-style
- 75% of the current conventional users had tried a hockey-style mask in the past

Survey Results

Both mask type wearers agreed

- Their mask type offered better protection from foul tips
- Their mask type provided better visibility and overall comfort
- Hockey style masks offered better protection from backswings
- Hockey style masks offered better overall safety/protection
- Conventional masks were lighter, only conventional users said they were easier to remove

Survey Results

- Regardless of mask type, 57% report getting hit in the mask once per game, 25% report getting hit two or more times per game

HITS 2015 Results

- 26 concussions in total
 - 18 (69%) from foul tips
 - 6 from backswing (23%)
 - 1 from both foul tip/backswing
 - 1 from collision
- Helmet type determined for 24 of the 25 concussions from a foul tip or backswing

Mechanism	Conventional Style	Hockey Style	Total
Foul Tip	11	6	17
Backswing	6	0	6
Foul Tip/Backswing	1	0	1
Total	18	6	24

Conclusions

- Foul tips/backswings cause concussions
- Further laboratory testing to determine which mask type (and variations within types) are stronger, better reflective/absorbent of hits, etc and better for injury prevention
- Qualitative data to assess why players choose a mask type

Future Directions

- What's the frequency rate of backswings/foul tips?
- Risk factors for backswings/foul tips: height, weight, age, level of play, inning, etc?
- Are catchers who experience multiple “sequential” backswing/foul tip events more susceptible to concussions?
- Catcher Video data (Sports Info Solutions) identified backswing/foul tip events for catchers in every game in 2015 (MLB and MiLB)