

# **IMPACT OF RULE CHANGES ON PENALTY ENFORCEMENT DIVISION I MEN'S AND WOMEN'S ICE HOCKEY**

**Presented by  
Reddeddy Anurag reddy**

## DATA COLLECTION AND ANALYSIS

- Play by play 2022, 2023 and 2024 data for both men's and women's is collected.
- Analyzed contest ID, penalty type, player ID, team name, play time, and game period to identify relevant entries.
- Located and merged entries with the same player, penalty time, and game period, while distinguishing between major penalties involving game misconducts or disqualifications and those that did not.

### NOTE: DF1 IS THE PLAY BY PLAY DATA

```
FOR(I IN 1:NROW(DF1)) {
  IF(DF1$PLAY_ACTION_SUB_TYPE[I] == "GAMEMISCONDUCT" |
    DF1$PLAY_ACTION_SUB_TYPE[I] == "MISCONDUCT" |
    DF1$PLAY_ACTION_SUB_TYPE[I] == "DISQUALIFICATION") {

    SAME_PERIOD <- DF1 %>%
      FILTER(GAME_PERIOD_ID == DF1$GAME_PERIOD_ID[I])

    IF (ANY(SAME_PERIOD$PLAY_TIME == DF1$PLAY_TIME[I] &
            SAME_PERIOD$GAME_PLAYER_ID == DF1$GAME_PLAYER_ID[I] &
            SAME_PERIOD$NAME_TABULAR == DF1$NAME_TABULAR[I] &
            SAME_PERIOD$PLAY_ACTION_SUB_TYPE == "MAJOR")) {

      IF(DF1$PLAY_ACTION_SUB_TYPE[I] == "GAMEMISCONDUCT") {
        DF1$PLAY_ACTION_SUB_TYPE[I] <- "MAJOR GAMEMISCONDUCT"
      }
      ELSE IF(DF1$PLAY_ACTION_SUB_TYPE[I] == "MISCONDUCT") {
        DF1$PLAY_ACTION_SUB_TYPE[I] <- "MAJOR MISCONDUCT"
      }
      ELSE IF(DF1$PLAY_ACTION_SUB_TYPE[I] == "DISQUALIFICATION") {
        DF1$PLAY_ACTION_SUB_TYPE[I] <- "MAJOR DISQUALIFICATION"
      }
    } ELSE {
      DF1$PLAY_ACTION_SUB_TYPE[I] <- PASTE("DIRECT",DF1$PLAY_ACTION_SUB_TYPE[I])
    }
  }
}
```

**FIG-1: MIH PLAYQUALIFIERS BREAKDOWN (SEASON 2022)**

play_qualifiers	major	Major GameMisconduct	Major Disqualification
contacttothehead	104	100	2
directcontacttothehead	21	20	1
hittingfrombehind	77	75	0

**FIG-2: MIH PLAYQUALIFIERS BREAKDOWN (SEASON 2023)**

play_qualifiers	major	Major GameMisconduct	Major Disqualification	Major Misconduct
contacttothehead	126	85	0	0
directcontacttothehead	33	22	0	0
hittingfrombehind	83	46	1	0

**FIG-3: MIH PLAYQUALIFIERS BREAKDOWN (SEASON 2024)**

play_qualifiers	major	Major GameMisconduct	Major Misconduct
contacttothehead	125	71	0
directcontacttothehead	32	19	1
hittingfrombehind	73	43	0

*Conclusion: Two years ago, a rule change was implemented that allowed certain penalties, such as contact to the head and hitting from behind, to be enforced solely as major penalties without automatically resulting in a game misconduct or disqualification. This change permitted players to challenge the calls for major game misconduct or disqualification made by referees on the ice. Consequently, the number of major penalties converted to game misconducts or disqualifications decreased in the years following the rule change as shown in figures 2 and 3.*