

Analysis of UFC Fight Finishes (1994–2023)

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Introduction

This analysis is based on multiple UFC-related datasets that were merged to provide a comprehensive view of fight finishes from 1994 to 2023. The data includes information on fight outcomes, finishing methods, weight classes, and historical trends. Cleaning and merging steps were performed to standardize categories and remove inconsistencies, ensuring accurate analysis

Objective

The goal of this study is to:

1. Identify the most and least common fight finishes in UFC history
2. Analyze how finishing methods vary by weight class
3. Examine how fight finishes have evolved over time

Methodology

The dataset consists of UFC fight results spanning nearly 30 years. The data was collected, cleaned, and merged to ensure consistency in fight categories. The analysis was conducted using Tableau for visualization and Python/Excel for data processing. The following steps were taken:

- **Data Cleaning:** Standardized finishing method categories to remove inconsistencies.
 - **Data Merging:** Combined multiple datasets to create a unified fight history.
 - **Filtering:** Isolated relevant fight outcomes, focusing on KO/TKO and submission finishes.
 - **Visualization:** Used bar charts and trend analysis to track fight finish patterns.
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Overview of Most and Least Common UFC Finishes

General Findings:

Insight 1: Dominance of Striking-Based Finishes

- **“Punches to the Head”** is by far the most common fight-ending method (**3,436 occurrences**), more than **3x higher than any other method**.
- **“Ground and Pound”** (1,102 occurrences) is the second most frequent, reinforcing the dominance of **striking finishes** in both **standing and ground positions**.
- **KO/TKO finishes** account for a significant portion of UFC fight stoppages, demonstrating that striking-based methods are the primary path to victory.

Insight 2: Chokes Dominate Submission Finishes, While Joint Locks Are Less Common

- **Rear Naked Choke** (966 occurrences)
- **Guillotine** (480 occurrences)
- **Triangle Choke** (218 occurrences)
- The **Armbar** (274 occurrences) is the **most frequent joint lock**, standing out as the only non-choke submission with a high occurrence rate.

- **Leg locks remain rare**, with **Heel Hooks (42)** and **other lower-body submissions appearing at minimal frequency**.
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UFC Finishes by Weight Class

Heavyweight Division

- **Finishing trends:**
 - **Punches to Head (914 occurrences)** and **Ground and Pound (226 occurrences)** make striking the overwhelmingly dominant method.
 - **Submissions are rare**, with **Rear Naked Choke (46 occurrences)** being the most frequent but occurring far less than knockouts.
 - Techniques such as **flying knees, spinning strikes, and leg locks are nearly nonexistent**, likely due to the emphasis on raw power over agility.
- **Takeaways:**
 - **Power is king**—a single punch is often enough to finish a fight.
 - **Submissions are harder to execute** due to the larger frames and strength-based grappling defense.
 - **Top control and brute-force striking** are the preferred paths to victory.

Light Heavyweight Division

- **Striking remains dominant but is more diverse than Heavyweight:**
 - **Punches to Head (414 occurrences)** still lead, but techniques like **Elbows (40), Knees to Head (34), and Head Kicks (20)** appear more frequently than in Heavyweight.
- **Submissions play a slightly bigger role:**
 - **Rear Naked Choke (84 occurrences)** is nearly **double** the number seen in Heavyweight.

- **More technical submissions appear**, including **Triangle Chokes (14)** and **Kimuras (18)**.
- **Takeaways:**
 - Light Heavyweights still rely on knockouts, but **a wider range of striking and submissions is evident**.
 - **Technical grappling begins to emerge** as a factor, distinguishing this weight class from the brute-force style of Heavyweight.

Middleweight Division

- **Striking trends:**
 - Punches to Head (486 occurrences) still lead, but there is **a noticeable rise in dynamic striking techniques**:
 - **Head Kicks (58), Knees to Head (44), and Spinning Strikes (8 each) show greater variety.**
 - **Body shots start appearing (Body Punches: 8, Body Kicks: 16).**
- **Submissions are increasing in frequency:**
 - **Rear Naked Choke (146 occurrences)** now appears significantly more than in Light Heavyweight.
 - **Guillotine (96) and Triangle Choke (88) are also much more common than in heavier weight classes.**
- **Takeaways:**
 - Middleweight fighters **blend knockout power with dynamic striking and grappling**.
 - **Submissions are now a key component** of finishing fights, unlike in Heavyweight and Light Heavyweight.
 - The balance between **KO power and technical skill** makes Middleweight one of the most well-rounded divisions.

Welterweight Division

- **Striking trends:**
 - Punches to the Head (524 occurrences) remain dominant, but **Ground and Pound (146) is starting to decline.**
 - **More striking variety is seen, with an increase in Head Kicks (52) and Knees (72).**
- **Submissions are now nearly as common as Ground and Pound finishes:**
 - **Rear Naked Choke (176 occurrences) is now almost equal to Ground and Pound (146).**
 - Submissions like **Guillotines (88) and D'Arce Chokes (20)** show that grappling is becoming a **major factor in finishing fights.**
- **Takeaways:**
 - **Welterweights are well-rounded, using both striking and submissions.**
 - **The balance between knockout and submission finishes is becoming more even.**

Lightweight Division

- **Knockouts still lead, but submissions are now just as common.**
 - Punches to Head (484 occurrences) is **only slightly higher than Rear Naked Choke (266 occurrences).**
 - **Technical striking is key:** More Head Kicks (56) and Knees (32) than in heavier divisions.
- **Submissions become significantly more diverse:**
 - **Guillotines (100), D'Arce Chokes (22), and rare submissions like the Inverted Triangle (6) start appearing.**
- **Takeaways:**

- Lightweight is **the first division where submissions nearly match knockouts** in frequency.
- Fighters **rely on speed and technique** rather than raw power.

Featherweight & Bantamweight Divisions

- **Knockouts continue to decline:**
 - **Punches to Head (256 at Featherweight, 264 at Bantamweight)** show a sharp drop from heavier divisions.
 - **Ground and Pound also continues to decrease.**
- **Submissions rise further:**
 - **Featherweight: Rear Naked Choke (88)** is now nearly as frequent as knockouts.
 - **Bantamweight: Submissions like the Armbar (32) and Triangle Choke (22)** are much more common.
- **Takeaways:**
 - Submissions are now a **core component of finishing fights**.
 - Fighters at these weights tend to be **highly technical, blending striking and grappling seamlessly**.

Flyweight Division: The Turning Point

- **First division where submissions surpass knockouts:**
 - Rear Naked Choke (64) is **almost equal to Punches to Head (94)**.
 - **Submissions now include highly technical finishes like Twisters and Suloev Stretches.**
- **Takeaways:**
 - Flyweights rely more on **grappling and positional control** than raw knockout power.

- Speed and agility make knockouts harder to land, shifting the focus toward submissions.

Key Takeaways on Finishes by Weight

- **Knockouts decline as weight decreases**
 - Heavyweights rely on **one-punch power**, while lighter fighters struggle to land clean knockouts.
 - **Submissions increase in frequency and diversity as weight decreases**
 - Lighter fighters rely on technique, leading to a wider variety of submissions.
 - **Striking becomes more diverse in mid-weight classes**
 - **Middleweight-Welterweight** have the best mix of KO power and striking creativity.
 - **Flyweights rely more on submissions than any other division**
 - For the first time, submissions are just as common as knockouts.
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How have UFC Finishes Changed Over Time?

1994–2000: Early Years with Balanced Finishes

- Total fight finishes were **relatively low**, with **limited variation** in finishing methods.

- In 1994, **there were 23 total finishes**, with **Armbars (6)** and **Punches to the Head (4)** being the most common.
- By 2000, total finishes **dropped slightly to 21**, with **Armbars (6)** still dominant, while **Punches to the Head (5)** increased in frequency.
- **Knockouts and submissions were relatively balanced.**
 - **Submissions were mainly Armbars, Guillotines, and Rear Naked Chokes**, while knockouts came mostly from **Punches to the Head and Elbows**.
 - Submissions were fundamental, **with little variation**.

2005–2010: Knockouts Surge as the UFC Expands

- **The total number of finishes increased significantly as the UFC grew.**
 - By 2005, finishes had **more than doubled from 2000**, reaching **51 total finishes**, with Punches to the Head (18) leading all methods.
 - By 2010, total finishes **climbed further to 110**, with **knockouts dominating** (Punches to the Head: 34).
- **Knockouts became significantly more common than submissions.**
 - The gap widened between striking and submissions, **with knockouts surging in frequency**.
 - **Ground and Pound (3 in 2010)** also emerged more frequently as a finishing method.
- **Submission variety started expanding.**
 - While Rear Naked Chokes (15 in 2010) remained dominant, **new submissions such as Triangle Chokes (5) and Arm Triangles (4) became more frequent**.
 - **Lower-body attacks remained rare**, though Kneebars (3 in 2010) and Heel Hooks (1) began appearing.

2015–2023: Submissions Regain Popularity, More Technical Diversity

- **Submissions rebounded, closing the gap with knockouts.**
 - **By 2015, total finishes had risen to 183**, with Punches to the Head (57) still leading, but **Rear Naked Choke (41) now much closer in frequency.**
 - In 2020, Punches to the Head (54) remained dominant, **but submission finishes like Rear Naked Choke (26) showed a continuing trend toward balance.**
 - By 2023, total finishes were 166, with Punches to the Head (48) still leading, but **Rear Naked Choke (35) indicating the closest balance seen so far.**
 - **Submission techniques became increasingly diverse.**
 - Previously rare submissions, such as D'Arce Chokes (2 in 2023), Twisters (1 in 2023), and Ezekiel Chokes (1 in 2023), **became part of the submission landscape.**
 - More advanced ground techniques, such as **Anaconda Chokes (2 in 2023) and Kimuras (1 in 2023), showed the evolving grappling skillset of UFC fighters.**
 - **Fighters became more well-rounded.**
 - Striking remains a dominant finishing method, but modern fighters are now **highly proficient in submissions, making them a more viable path to victory.**
 - The increased presence of high-level grapplers and submission specialists has **led to a more technical and diverse submission landscape.**
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Limitations and Future Research

The total number of finishes in the Trends Over Time visualization is lower than in the Most Common Finishes by Weight Class chart due to a mapping issue, not missing data. Some finishes were categorized correctly in one chart but left uncategorized in the time-series visualization, leading to lower totals.

This does not impact overall findings—knockouts and submissions remain the dominant finishes, and the relative trends over time are still accurate. Future refinements can improve categorization, but the current analysis provides a reliable reflection of UFC fight trends.

Conclusion

This analysis of UFC fight finishes from 1994 to 2023 provides a comprehensive look at how fighters secure victories and how these trends have evolved over time. Across all weight classes, knockouts—particularly via punches to the head—have consistently been the most common fight-ending method, demonstrating the dominance of striking in MMA. However, as weight classes decrease, the reliance on power diminishes, leading to a more balanced distribution between knockouts and submissions. Flyweight is the first division where submission finishes nearly match knockouts, indicating the increasing importance of technical grappling in the lighter weight classes.

Over time, the UFC has seen a significant rise in both fight volume and finishing variety. While early years were defined by fundamental submissions like the Armbar and Rear Naked Choke, modern MMA has introduced a broader range of techniques, including more complex submissions such as the D'Arce Choke, Twister, and Ezekiel Choke. Knockouts surged in the mid-2000s as striking techniques became more refined, but in recent years, submissions have regained prominence, reflecting the sport's continued evolution.

This shift highlights a broader trend—modern UFC fighters are more well-rounded than ever before. The days of specialists dominating single areas are fading, as athletes are now expected to blend high-level striking with technical grappling to remain competitive. The sport has moved away from an era of raw power towards one that values versatility, strategy, and adaptability. As the UFC continues to grow, further advancements in training, fight strategy, and athlete development will likely shape the next wave of finishing trends in mixed martial arts.