



Bend, Don't Break

Let's Get Back to Play



C-19

PLAYBOOK



Foreword

In 2011, I was coaching for the San Diego Chargers when the NFL owners locked players out of team facilities, activities and workouts from March 11th until July 25th. We spent 136 days away from players with zero contact. Over those five months our coaching staff took a reduction in pay and most worked less. Players took no pay and all worked less. The lucky ones self-organized in small workout groups. Most trained by themselves when they weren't spending time with families or working—yes, some players had to take jobs.

We were not ready to hit the ground running on July 25th. But we were all excited, so hit the ground running we did. On the first day back we held a repeated sprint “fitness test”. Ten half-gassers later, three players were injured. In mere days we were back into a daily schedule that started as early as 6:15am and ended at 10:00pm. On August 11th, seventeen days after the lockout ended, we played our first preseason game against the Seattle Seahawks and then the first full season game 30 days after that on September 11th versus the Minnesota Vikings.

Within 41 days we went from zero to 100 mph in one of the most physically demanding leagues in the world without the normal 4 month base of offseason training. Results were predictable. In our first game pro-bowlers Luis Castillo and Nate Kaeding got lower leg injuries. Antonio Gates spent the entire year battling a foot injury. Five of our rookies were injured in camp and through the first three weeks of the season. By December 1st we had put five pro-bowl players on injured reserve. If I tally up the amount of unrealized game checks from our pro-bowl players alone that season it amounts to roughly \$17,500,000.

No team today can afford to lose close to \$20 million in value. Not every injury was due to the lockout, but not being in “football shape” contributed to injuries across the league in 2011—most notably in the rise of achilles tendon issues you will read about later.

As Bundesliga, La Liga, NBA, and MLB begin to consider playing, we are set up for a hard history lesson. More athletes will most likely be injured over the next 24 months than in any similar period in the history of collective sport. This is not only a coach, athlete, trainer, or sport science problem—this is universal, and will affect the quality of the matches we need in order to generate enough revenue to bridge to a post-Covid era. The CEOs of leagues, teams, and associations must be involved in how players and coaches prepare to return to play.

The aim of this playbook is to outline the history of play stoppages, promulgate universal best practices for athletes, and suggest a few novel C-Level “What ifs...” that could help make games safer, more profitable, and more entertaining. This is not a definitive document, but our hope is that it helps one person make a definitive decision on how best to return to play safely and effectively for the good of the games we all love.

—Steve Gera, CEO Gains Group

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Lessons from Sporting History

The COVID-19 lockdown is unprecedented. Athletes in sports across the world are experiencing altered access to training facilities, team environments and coaching staff.

Similar interruptions to consistent training and competition have been observed previously in major league lockouts. During a lockout, athletes typically cannot go into team facilities, see team medical staff, train in team settings, or even communicate with their coaches.

Our return to sport after the COVID-19 lockdown can be informed by these stoppages. The most recent National Football League (NFL) and National Basketball Association (NBA) lockouts show us that we must be vigilant in taking steps to prevent unnecessary injury risk when our athletes return to training and competition.

Athletes, teams, leagues and fans are all eager to return to the sports they love. But what if we try to do too much too soon?

Injuries are costly—financially and on the field. What can we do to mitigate the risk of injuries to our athletes and further damage to the game?

Here, we show that appropriate preseason training is valuable to prevent injuries and increase future training and competition availability. We also demonstrate that condensed competition schedules may expose teams to performance breakdown and greater injury risks. It is more important than ever to monitor and manage player load.

We explore returning to sport in ways that are safe for our athletes, and suggest options to mitigate financial loss for teams and leagues.



The 2011 NFL Lockout

How long was the break?

- 132 days
- The 2011 NFL lockout lasted from March 11, 2011 to July 25, 2011.

What was different about the season?

- During the lockout, players could not use team training facilities, see coaching and medical staff, and there was no free agency and training camp.
- No structured preseason conditioning took place, and there were only 17 days transition from training camp to the start of preseason competition.

What was the impact on the game?

- Spike in Achilles tendon ruptures immediately post lockout
 - › 12 ruptures the first 29 days, compared to 6 and 10 ruptures in the previous two full seasons.
 - › An unusually high number of ruptures was observed in rookies. ([Myer et al 2011](#))
- Conditioning-dependent injuries increased during the regular season
 - › Conditioning-dependent (non-head, non-illness) injuries increased by approximately 15% from 2010 to 2011 (totaling 271 injuries), returning to baseline the following season.
 - › Of note, the number of hamstring injuries increased. ([Binney et al 2018](#))

Anecdotes:

- Breakdown in defense was frequently observed suggesting a lack of cohesion.
- The NY Giants lost seven starters before the regular season started.
- In the first two weeks, the Kansas City Chiefs lost three starters. ([Article link](#))

Chris Cooley (Washington Redskins):

"I feel 100 percent that I'm a casualty for the season of the lockout... I think it was a shame that they didn't let players who had surgery spend time with the doctors and trainers they trust on a daily basis. I wish I could've." ([Article link](#))

Peyton Manning (Indianapolis Colts):

Advice to college players in relation to COVID-19 lock-down (April 2020)

"Nobody has any experience in dealing with this. The closest thing that I can relate this to is in 2011 the NFL had a lockout, where you weren't allowed to go in the building, you weren't allowed to talk to your coaches in the offseason... But as players, we could still organize our own workouts..."

I thought we were going to have this incredible advantage because no other teams were doing that... And next thing you know, I had this neck injury and I'm out for the season and it kind of all went for naught for me."

"My point is, if you guys can find a way to get some extra work in, the communication you guys ought to be able to get with [your teammates]... I know it's hard to workout together and throw together... take advantage of this time to communicate." ([Article link](#))



The 2011–12 NBA Lockout

How long was the break?

- 161 days
- The 2011 NBA lockout lasted from July 1 to December 8, 2011.
- Some players (approx. 90) participated in foreign leagues.

What was different about the season?

- A short preseason of 16 days preceded a condensed competition schedule.
- Teams played a revised schedule of 2 preseason games (typically 7) and a 66 game regular season (typically 82) over 124 days; the reduction was predominantly in non-conference games.

What was the impact on the game?

- Teams played on average two more games per month, playing three-consecutive games at least once in the season—triples had not occurred since the shortened 1999 season.
 - › On 29 occasions teams played five games in six days.
 - › Recovery time between games was reduced: playing one game every 1.87 days (typically every 2.25 days).
- On average injuries increased by 1.7 per day from the previous two seasons, to average 9 injuries per day in the 2011–12 season.

[\(Article link\)](#)

Anecdotes:

- The level of play was reportedly lower due to fatigue, while some older players were rested to avoid burnout/recuperate from injuries.
- When the playoffs were reached, several teams were missing players, with many costly and high profile injuries.

Impact on 2012 Olympic team:

- Injuries had a significant impact on USA Basketball's potential roster for the London Olympics. Management took an extraordinary measure, asking for an extension from the United States Olympic Committee on naming the 12-man roster.
- Chairman Colangelo: "As a result of what's happened in this unusual NBA season—not pointing fingers or laying fault that it was a shortened season—the reality is there's been a lot of injuries. As a result of that, we are going to take every moment we can before we select the team. It would just seem silly and not very smart to jump the gun with a whole bunch of games remaining in the playoffs." [\(Article link\)](#)



Congested Schedules in Association Football

What is the impact of congested schedules?

- Playing multiple UEFA games with a short recovery time between matches affects quality of performance and injury rates.
 - › In highly congested periods (6 games within 18 days) the injury rate during match-play was more than double compared with the non-congested period, with moderate severity injuries the most common. ([Dellal et al 2015](#))
 - › A study of high match loads (≤ 4 days between matches, vs 6 days) over 11 years showed total injury rates and muscle injury rates were increased by 9% and 32% respectively, particularly hamstring and quadriceps injuries. ([Bengtsson et al 2013](#))
- During the most recent congested Premier League festive season schedule, most teams played 4 games between December 21 and January 2 (4 games in 13 days).
 - › 74 athletes were injured (from minor to serious) accounting for approximately 5% of all athletes eligible to play in the league at the start of the campaign.
 - › Approximately 6 athletes were injured every 24 hours during this period. ([BBC Sport article 2020](#))

Anecdotes following injuries in the Premier League festive season (2020)

Liverpool Manager Jurgen Klopp (4 injuries):

"Sports science and sports medicine is [in] a good place, but they cannot do miracles and we cannot have 30 or 40-player squads. That's not possible."

Newcastle Manager Steve Bruce (9 injuries):

"I did predict a month ago that the schedule was ridiculous and we don't have the resources to have huge rotation."

Newcastle recorded nine injuries, including losing five players in a single defeat by Leicester on Boxing Day. The team had just one of its six central defenders available for the next game.



Preseason Training

Investing time in preseason training is valuable to prevent injury and increase future training and competition availability. Furthermore, the level of fitness an athlete possesses before return to training is an important consideration.

Studies in various sports:

Australian Rules Football

- A greater proportion of preseason training resulted in higher training loads and greater participation in training and competition during the competitive phase of the season.
[\(Murray et al 2017\)](#)

Rugby League

- Maximizing participation in preseason training may protect elite rugby league players against in-season injury.
 - › 10 additional preseason sessions was associated with a 17% reduction in odds of injury in the subsequent week.
 - › Increased preseason participation was associated with a lower percentage of games missed due to injury.
[\(Windt et al 2017\)](#)

Football-UEFA

- A greater number of preseason training sessions was associated with less injury load during the competitive season.
[\(Ekstrand et al 2020\)](#)

Collegiate Women's Soccer

- The level of fitness an athlete possesses before returning to training is important.
 - › Athletes with both a higher BMI and lower off-season training habits were 3 times more likely to sustain a non contact time-loss lower quadrant injury.
[\(Brumitt J et al 2020\)](#)

These studies, along with the evidence from shortened pre-seasons following major league lockouts outlined above, support the argument for teams and leagues to ensure an appropriate amount of preseason training is undertaken before return to competition.



Optimizing Return to Play

Returning to play after the COVID-19 lock-down presents us with unique circumstances. The transition will be different from a typical off-season in many ways.

Athletes returning from quarantine may have faced countless changes and compromised circumstances, including:

- Longer break between seasons than normal
- Heavily reduced training volume and intensity
- Lack of team specific training or contact with teammates
- Reduced strength and fitness
- Limited access to equipment and training facilities
- Altered communication with coaching and support staff
- Reduced access to sports medicine and sports science staff

Athletes may also be returning to new circumstances, such as changed facilities, training protocols, shortened preseasons, and condensed competition seasons.

We recognize that we need to make adjustments in order to take care of our athletes and prevent costly and unnecessary injuries and illnesses. Performance and wellbeing are the responsibility of the athletes, coaches and support staff, and a collective approach should be taken with respect to returning to play.

How can we optimize the transition for athletes to return to training, and ultimately return to competition?

1. Establish an athletes "state-of-return" to compare to previous baseline tests, and use as a benchmark for monitoring progress.
2. Mitigate, monitor and rehabilitate injuries, paying particular attention to the risks of your sport.
3. Implement a plan to make sure every member of your team is the best at the basics.



1. Athlete Screening at Initial Return to Play

Before beginning any preseason, all athletes should undergo some process of screening for risk of injury in terms of physical, medical and psychological conditions.

A strong understanding of each athlete's "state-of-return" after lock-down will help identify their injury risks, areas for improvement and inform preseason training and conditioning plans.

The screening results can be compared to previous tests for an athlete, and will set a new benchmark for monitoring progress throughout the preseason and competition.

The screening process should:

- Measure baseline physical data and elements essential for sport performance such as:
 - › Weight/body composition
 - › Mobility and flexibility
 - › Strength/power
 - › Speed/agility
 - › Reaction time
 - › Aerobic capacity
 - › Cardiovascular health and function
- Identify risk factors for sport performance
- Detect and identify factors that may predispose an athlete to an increased risk of injury
- Assess lifestyle factors that may affect injury risk and performance
- Identify psychological factors that play a part in injury risk

This information can be used to measure progress and assess the effectiveness of training. Athletes should also be re-screened after an injury to ensure they are ready to return to training and competition.

Important COVID-19 considerations for athletes returning to play:



- COVID-19 is a systemic illness that affects major organs including the cardiovascular system. The effect of lingering inflammation on athlete cardiac health is not yet known.
- Has the athlete (or anyone they have had close contact with in the past 14 days) been diagnosed with COVID-19 or displayed symptoms (cough, fever, shortness of breath)?
 - › Consider conducting tests for COVID-19 or COVID-19 antibodies to identify athletes who may be or may have been infected.
 - › Conduct physical examinations to screen for persistent or new post-infectious findings following COVID-19 infection, including cardiac testing. ([Baggish et al 2020](#))
 - › Monitor athlete and staff health on a daily basis, consider using daily symptom checkers and touchless infrared thermometers.
- Address requirements regarding liability, insurance and testing for players, staff and their families.
- Educate staff and athletes to limit transmission of infection and further impact on athlete availability.



2. Injury Considerations

Every sport has its own risk factors that may predispose an athlete to injury, before considering the specific mechanism of an injury.

Risk factors for injury can be:

- Extrinsic—eg rules of the game
- Intrinsic—eg athlete physical characteristics and psychological approach
- Modifiable—eg trainable physical and mental characteristics, tactics
- Non-modifiable—eg athlete age, rules of the game*

* Typically we consider “rules of the game” to be non-modifiable. Does the pandemic present us with a unique chance to modulate this risk factor?

It should be the goal of the athletes, coaches and support staff to identify and monitor relevant injury risk factors, and to develop and implement a plan to manage or mitigate the intrinsic and modifiable risk factors identified.

Certain player positions in any sport are more susceptible to injury. Examples of common injuries in professional sports and possible causes include:

- Hamstring tears—with high loads/rapid increase in high speed running
- Knee injuries—such as ACL, MCL and meniscus tears with a hit, or when athletes twist, bend, or change direction quickly
- Shoulder dislocation and joint injuries—with tackling, scrums, overhead swings, pitching
- Muscle and connective tissue injuries—with mismanagement of training load
- Concussion and traumatic brain injuries—with head impact or rapid deceleration
- Impact injuries—collisions more commonly result in injury if technical/tactical preparation is lacking

These injuries, and many more, occur through different acute and chronic mechanisms. Regardless of the cause, the resulting time out from competition for rehabilitation is costly.

Rehabilitation can be a lengthy and difficult process. The severity of an injury and the complexity of treatment or surgery will affect the rate of rehabilitation.

Return to training and return to competition decision-making is required for every injury. And an inevitable conflict exists between resuming competition too early and suffering injury, and waiting longer and impacting team success due to lack of players available to compete.

Clear communication and decision making between sports medicine staff, athletes, coaches and team personnel is essential to ensure the most efficient recovery from injury. Ultimately, successful rehabilitation depends on trust and the prioritization of athlete welfare.



3. Be the Best at the Basics

As part of a collective approach to returning to play, each individual athlete should have a comprehensive plan to make sure they are the best at the basics.

Training

Why this is important for performance and injury prevention:

Training develops the mental and physical attributes, skills and tactics required for competition. In doing so, athletes not only develop the necessary strength, fitness and coordination to reduce the risk of injury during the season, but also risk injury if the training load is not well managed.

Achieving the optimal load—maximising training adaptations while minimizing injuries—is an ongoing challenge. High training loads can decrease injury risk and augment performance, but accumulating higher chronic loads must be approached progressively and thoughtfully.

Monitoring training informs coaches and support staff as they develop plans to meet the specific needs of each athlete. They use monitoring tools to evaluate current athlete status: quantifying the impact of the training and potential changes in injury risk.



How to mitigate training injuries:

- Ongoing management of training load
 - › Where possible, compare athlete status with training and game data from previous seasons
 - › Assess both volume and intensity of training to identify issues such as spikes in load or evidence of maladaptation
 - › Implement a collaborative approach across coaching and support staff to adjust training and address any issues for individual athletes
- Identify appropriate tools to monitor training load for your team
 - › There are multiple objective and subjective monitoring tools available to determine if an athlete can withstand the specific demands of a sport:
 - » Acute-chronic workload ratio
 - » Week-to-week changes in training load
 - » Heart rate indices (eg HRV, TRIMP, HRR)
 - » Jump protocols
 - » Force-velocity training
 - » Self-report questionnaires
 - › An ideal monitoring tool for your team should be:
 - » Easy to administer & time-efficient
 - » In-expensive
 - » Minimal interference with training & non-invasive
 - » Immediate feedback

- Progressively develop sport specific skills, technique and tactics
 - › Optimize execution in competition and reduce unplanned impacts.
- Implement recovery plans for all training and competitions
- Develop psychological skills (such as cognitive-affective-behavioral strategies and meditative training) to enhance performance and reduce injuries

What to look out for/ problems to identify:



- Indicators of maladaptation
 - › Such as heart rate indices, overuse problems, illness, sudden changes in weight, sleep issues, increased psychological stress, etc.
- Sudden spikes in training load are correlated with the onset of injury.
- Both too high and too low training loads have been associated with an increased risk of non-contact musculoskeletal injuries.
- Address niggles and treat minor injuries immediately before they progress, and adjust training accordingly.



Sleep

Why this is important for performance and injury prevention:

Sleep is important for adaptation to training, recovery and memory consolidation. Furthermore, decreased sleep volume and lower sleep quality or nonrestorative sleep is associated with increased number and severity of musculoskeletal injuries.

How to optimize sleep:

- Monitor quality and quantity of sleep
- Educate athletes and encourage practices that promote sleep such as:
 - › Limiting caffeine, alcohol and large meals close to bedtime
 - › Consuming foods that promote sleep (tryptophan rich foods, milk, tart cherry juice, sources of magnesium and folate)
 - › Avoiding smartphones and screen time before bedtime to limit blue light exposure
 - › Ensuring sleep environment is dark, quiet, cool and comfortable (sleep mask, blackout curtains, ear plugs, humidifiers, mattress options)
 - › Maintaining consistent bedtimes
- Schedule time for naps during training blocks
- Consider breathing or meditation practices

What to look out for/problems to identify:



- Consistent reports of reduced or poor quality sleep, low recovery scores
- Emotional and psychological factors that may impair ability to sleep
- Ongoing mental and/or physical fatigue
- Issues with attentiveness and motivation during workouts



Nutrition

Why this is important for performance and injury prevention:

Food intake provides the essential fuel and nutrients that support training, adaptation and recovery. Nutrition is important for meeting body composition goals, maintaining a healthy immune system and repairing tissue damage.

How to optimize nutrition:

- Educate athletes on using a *real food first* philosophy
 - › Whole foods are the best source of nutrients, vitamins and minerals
- Identify micronutrient deficiencies and specific requirements for supplement use
 - › Consider blood or saliva testing
- Monitor body mass and composition
 - › Particularly in extreme temperatures
- Align timing and intake of food and fluid with training, competition and recovery goals
 - › Eg set nutrition goals for: match day -1, match day, 4 and 48 hours post-match
- Pay attention to intake of key nutrients, examples include:
 - › Carbohydrate—energy
 - › Protein—muscle protein synthesis
 - › Iron—red blood cell production
 - › Vitamin D—bone health and immune system
 - › Antioxidants—oxidative stress
 - › Vitamin C & collagen—connective tissue health

What to look out for/ problems to identify:



- Problems with body mass and composition
 - › Rapid or unexpected fluctuations in body mass
 - › Overweight athletes/unhealthy body composition
 - › Underweight athletes
- Insufficient protein intake for muscle recovery and development
 - › Especially during periods targeting weight loss or muscle gain
- Relative energy deficiency (RED-S)
 - › Low energy availability compromises training quality and immune health



Travel

Why this is important for performance and injury prevention:

Travel is a fundamental element of professional sport. Travel scenarios, changing locations and new environments expose athletes to a myriad of stressors and health risks. Travel can also impact performance, recovery and sleep—adding to injury risk.

How to optimize travel:

- Plan for travel day hygiene (eg washing hands, hand sanitizer, face masks, clean surfaces)
- Schedule travel for minimal disruption to circadian rhythm
- Allow time for recovery from travel days, especially long haul travel
- Plan appropriately for new time zones—allow time to adjust to substantial time zone changes or for short trips, stay in home time zone
- Prioritize exposure to natural light in the new time zone to promote adjustment

COVID-19 travel considerations for athlete (and family) health and safety:



- Limit contact with others (staying more than 6 feet away)
- Choose take away instead of dining in a restaurant
- Create single serving meal, snack and supplement packs to meet individual requirements
- When arriving at new locations (hotel, locker room) disinfect surfaces
- If sick do not travel, report sickness to medical staff
- Adhere to quarantine procedures when returning back home
- Consider requirements to self isolate individuals while away from home



What If...?

We have outlined that:

- Limited preseason training can potentially increase risks for athlete injury; and
- Condensed competition schedules may expose teams to performance breakdown and further injury risks.

In the upcoming year, it is inevitable that the COVID-19 pandemic will have an impact on both the training and competition seasons in many sports. But the pandemic also presents us with a unique chance to consider novel scenarios and write new rules.

The following table outlines ideas which aim to:

- Reduce injuries in athletes and promote athlete wellbeing; and
- Identify opportunities to innovate and mitigate financial losses and in turn potentially find new ways for teams and leagues to engage fans and increase revenues.

All Sports

What If...

- 1 COVID-19 roster exemption designations
- 2 Increase roster size (specifically for low density or high injury risk positions)
- 3 Shorter game time
- 4 Reduce team travel
- 5 Teams only play geographically - North, South, East, West
- 6 Protective measure for first year players - rookies can only play 75% of available plays, time, or gameplay

Positive Effects	Negative Effects	Second Order Effects
1 + No negative impact to roster size if player tests positive for COVID-19.	- Teams with multiple positive COVID-19 tests have higher player costs but reduced roster quality.	» More developmental players get first team experience over the next 18 months—strengthening quality of play from starters to substitutes.
2 + Allows more reasonable rotation and use of players and creates more opportunity for developmental players.	- Increased roster size costs more in both player and support staff salaries.	» Owners lose short term margin, but quality of games and TV viewership increases creating a net zero impact.
3 + Reduces overall load per game. Games can be played more frequently.	- Players play harder in shorter games increasing potential for injury.	» Younger fans take to shorter games and new leagues emerge to challenge traditional leagues after they revert back to old rules, creating more competition for players and fans.
4 + Decreases travel fatigue and health risks. Provides more recovery time.	- Eliminates ability to grow fan bases nationally for both clubs and superstars - Tom Brady doesn't play in LA or San Fran!	» Removes airlines from sponsorship mix. But could also reduce overall travel expenditure in future. Addresses the impact of scheduling inequalities that currently put certain teams at an advantage/disadvantage.
5 + Strengthens natural rivalries. Reduces travel time/distance and time zone changes. Eliminates significant travel costs.	- Reduces fan exposure to out of region teams/superstars. More games with rivals lead to more intense games that fatigue players and negate benefits.	» Fans take to realignment of natural rivalries, reversing the advent of fluid fans who jump from one team to another carelessly. Embolden the Devoted Fan.
6 + Rookies are particularly vulnerable after work stoppages—reducing their load will ensure they have a future.	- Fans and teams banking on rookies turning their fortunes need to wait a year. Rookies have less opportunity to stand out.	» Professional teams adopt this model long term, creating a “pro-red shirt”, providing rookies with a better foundation.

Association Football

What If...

- 1 60 minute matches
- 2 6 substitutes
- 3 Rotating substitutions
- 4 Quarters instead of halves



Positive Effects	Negative Effects	Second Order Effects
1 + Creates a faster, more enticing game. More games (up to 3) can be played per week, so the season start can be delayed. Reduces time commitment from busy fans.	- Players play harder in shorter games increasing potential for injury. Eg creates more high speed running exposure for acute muscle tears.	» Fans become more engaged watching the shortened format, and a new short game competition is launched by FIFA in 2022 that allows for more matches and commercial inventory in a calendar year.
2 + More players to share the match load.	- Teams hold on to players they may have otherwise loaned out to another club reducing activity in the player transfer/loan market.	» Teams begin to use additional substitutes strategically. They create new strategies for play, particularly at the end of each half, putting a premium on good coaching.
3 + Players will not stay on field with potential injury if they can return to play. Strategically resting players creates new dimension.	- Best teams with older players get a competitive advantage over younger teams.	» Older players that cannot play 90 minutes can potentially come out of retirement. Pirlo lives!
4 + More recovery periods during the game, potentially reduces injuries related to exhaustion.	- Flow of game may be altered. Devout fans may not be happy about changing the game.	» Less build up and general momentum from clubs, but more emphasis on setting up specific attacks and quick runs is more exciting for fans.

Baseball



What If...

- 1 Extra innings replaced by a home run derby
- 2 Pitch cap
- 3 Play at spring training sites
- 4 9-game World Series (instead of 7) (reduce regular season play)

Positive Effects	Negative Effects	Second Order Effects
<ol style="list-style-type: none"> 1 + Keeps fans engaged at the end of a long game. Reduces player fatigue in potential overtime. 	<ul style="list-style-type: none"> - Never get to see emergency reliever. Potential unintended increase in load on starting pitcher. In HR derby, batters may alter swing, impairing technique. 	<ul style="list-style-type: none"> » Clubs begin to stock up on designated HR derby hitters who specialize in it.
<ol style="list-style-type: none"> 2 + Power pitchers are more fresh in playoffs. 	<ul style="list-style-type: none"> - Teams with less pitching depth will be disadvantaged. 	<ul style="list-style-type: none"> » Some pitchers become more injury-prone over time because they lose endurance and strength.
<ol style="list-style-type: none"> 3 + Reduces travel creating player hubs, reducing risk for COVID-19 spread. 	<ul style="list-style-type: none"> - Players spend more time away from home and family. Hot weather in FL and AZ may be detrimental to players mental health and physical performance. Late night games could be scheduled. 	<ul style="list-style-type: none"> » Fans at home cities feel disconnected from MLB and fail to come back in force when play resumes in home city.
<ol style="list-style-type: none"> 4 + Extra playoff revenue. More fun. More betting. Throwback to 1920s 9-game series. 	<ul style="list-style-type: none"> - In the World Series, the extra games inadvertently decrease urgency to win in early games, and teams win in fewer games. 	<ul style="list-style-type: none"> » Players and owners discover that they prefer nine games because it creates more opportunity to win a title and more profit. World Series throwback jerseys create new revenue streams.

American Football



What If...

- 1 Expanded practice squads
- 2 XFL kickoff rules (from 30 yd line to inside 20—receiving team line up at 35 yd line)
- 3 Red Zone Race Overtime (Each team runs unlimited plays from 18 yd line until they score a touchdown. Team that scores in fewest plays wins.)
- 4 10 more seconds on play clock (in college and NFL games)

Positive Effects	Negative Effects	Second Order Effects
<ol style="list-style-type: none"> 1 + Gives teams more coverage in practice reducing exposure of starters. 	<ul style="list-style-type: none"> - Costs more in player salaries. More people increases potential for COVID-19 transmission. 	<ul style="list-style-type: none"> » With more players, teams increase overall depth and quality over time.
<ol style="list-style-type: none"> 2 + Greatly reduces high velocity collisions. Creates new dimension of game planning for coaches. 	<ul style="list-style-type: none"> - Kickers become less important. NFL coaches take time to adapt, making the play less exciting. 	<ul style="list-style-type: none"> » Rule becomes new standard, adopted at all levels. More exciting plays develop as coaches begin treating it as an additional "run play."
<ol style="list-style-type: none"> 3 + Eliminates drawn out overtime for players. Enhances end of game excitement for fans. 	<ul style="list-style-type: none"> - Fast or chaotic play increases injury risk. 	<ul style="list-style-type: none"> » Fans love the format, and it is adopted as the preferred way to end football games.
<ol style="list-style-type: none"> 4 + Reduces the total number of plays in a game without structurally changing the game. Allows more rest. 	<ul style="list-style-type: none"> - Slows game down for fans. Makes the sport appear to be much slower. 	<ul style="list-style-type: none"> » Divides coaches who like to play fast and those who want to play at their own pace, creating more disparity between gameplans.

Rugby Union



What If...

- 1 Uncontested scrums
- 2 Rotating substitutions
- 3 50:22 kick

Positive Effects	Negative Effects	Second Order Effects
<ol style="list-style-type: none"> 1 + Reduces impact on front row players, reducing injuries. 	<ul style="list-style-type: none"> - Not true to the sport. 	<ul style="list-style-type: none"> » Accidentally creates a new competitive form of rugby between sevens, league and union.
<ol style="list-style-type: none"> 2 + Strategically resting and rotating players manages player fatigue and enhances the overall size and speed on field at any given time. 	<ul style="list-style-type: none"> - Purists cry foul. Fans do not accept new tempo of the game. 	<ul style="list-style-type: none"> » Players become more highly specialized, rotating as offensive or defensive specialists.
<ol style="list-style-type: none"> 3 + Fewer players involved in rushing defense decreasing most severe collisions. 	<ul style="list-style-type: none"> - Teams struggle to adapt to new rules in shortened preseason. 	<ul style="list-style-type: none"> » Ongoing reduction in collisions and injuries increases youth participation.

Basketball



What If...

- 1 3 free throw attempts awarded to any foul in last 2 minutes of game
- 2 3 on 3 Tournament with rapid player rotations to end 2019-20 season
- 3 No overtime—three point skills challenge to finish game

Positive Effects

- 1 + Better engagement for fans at home if the last two minutes are not drawn out. Player post-game recovery commences sooner.
- 2 + Spreads load of intense gameplay across roster. Allows more rest.
- 3 + Reduces overtime fatigue. Enhances end of game excitement for fans. Introduces a unique skill based competition with more sponsorship opportunity.

Negative Effects

- Teams will change strategy, creating a disadvantage for slow adopters.
- Stacked teams have an even greater advantage in tournament than in 5 on 5.
- Distracts from diverse skills of the game with over emphasis on three point shooting.

Second Order Effects

- » Conclusions of games are more dynamic, however TV and sponsors dislike reduced advertising opportunities, forcing other changes to due to commercial revenue loss.
- » NBA changes summer league to 3 on 3 involving rookies and retired players. New NBA league dominates in era of low cost sport production (to the dismay of Big3). Garner excitement and preparation for new 3 on 3 format in Tokyo Olympics.
- » Fans are ultimately not engaged with the new format and demand overtime play returns.

Cricket



What If...

- 1 No spitting on the ball
- 2 Shorter game - BBL or T20 rules

Positive Effects

- 1 + Limits potential COVID-19 spread.
- 2 + Lowers bowler load. Bowlers are more fresh for future games. Fans are more engaged in fast paced game.

Negative Effects

- No spit = no swing! Without shining the ball to alter aerodynamics, bowlers have fewer options, favoring the batsmen. Players may opt for unlawful methods of ball tampering (sandpaper gate).
- Not true to test cricket. Fans may miss experience of multiple days of cricket.

Second Order Effects

- » Traditions around the game and unwritten rules further get exposed which disrupts the sport temporarily. Potential for development of external wax products to shine the ball.
- » Test match cricket drops in popularity making it incredibly difficult to recover post-COVID-19. Shorter format cricket prevails for the rest of the 21st century.

Road Cycling



What If...

- 1 Smaller teams (5 person teams)
- 2 16 day Grand Tours (over 23 days with 2 team time trials)
- 3 Shorter stages or more intermediate sprints

Positive Effects

- 1 + Potential for more teams in the peleton. Allows flexibility in rider rosters across race schedule.
- 2 + More rest between race days. Each stage more exciting.
- 3 + Decreases total ride time. Exciting viewing for fans and potential for extra prizes and sponsorship opportunities.

Negative Effects

- Teams that lose riders in crashes are disadvantaged, particularly in stage races.
- Riders are more rested and race with more intensity leading to potential crashes. Emphasis on team depth may separate competition.
- Faster racing may be more dangerous.

Second Order Effects

- » Emphasis on domestiques carrying workload make supporting two top riders more difficult. New tactics emerge for utilizing team leaders.
- » Tour routes are already set for 2020—defer these plans to 2021 and introduce shortened tours in 2020.
- » New “modern classics” emerge as predominantly sprint based competitions. Track cycling re-emerges as a fan favorite.

Australian Football League



What If...

- 1 6 interchange players
- 2 Substitutes can enter or exit from either side of field
- 3 Fewer staff involved on field/coaches box on gameday

Positive Effects

- 1 + More opportunities for reserves. Coaches implement new strategies around more bench players.
- 2 + Easier to remove tired players from far side of field. Increases efficiency of play.
- 3 + Saves on team staffing costs. Creates less opportunity for COVID-19 transmission. Coaches innate abilities and knowledge of the game are highlighted.

Negative Effects

- More players to manage on game day. Teams with long injury lists are disadvantaged.
- New sideline official required to monitor the rule.
- Staff struggles to process information and quality of coaching diminishes this year hurting quality of play and decision making.

Second Order Effects

- » Developmental players are increasingly integrated into games, challenging seniors for roster positions. Seniors retire sooner as they are surpassed by younger, cheaper players. Teams save on player costs.
- » Rule is adopted long term. Options for communicating with coaches box (farside phone) from both sides of the field emphasizes efficiency.
- » AFL reverts to more pure form of the game with fewer voices. Teams find innovative ways to use performance budget, such as automation of data collection and reporting that informs on field decisions.

Ice Hockey



What If...

- 1 Four 15-minute periods
- 2 Dump and chase penalized
- 3 Play 5-on-5 (like overtime) with current roster size

Positive Effects

- 1 + Same amount of game time, broken up with more rest, reduces player fatigue. Increases advertising opportunities.
- 2 + Reduces number of high speed collisions against boards.
- 3 + Reducing numbers on ice by one skater opens up space, reducing traffic and making game faster.

Negative Effects

- Flow of game may be altered, shorter blocks of play increases intensity and potential for injuries.
- Players and coaches struggle to maintain rhythm of game. Less physical play disappoints fans.
- Teams reduce numbers of defensive players opting to put more players with pure speed on ice.

Second Order Effects

- » With the reduction of player fatigue, NHL is able to add more games to annual schedule creating new revenue opportunities.
- » Tactical game shifts too quickly alienating hard core fans.
- » New format of hockey is adopted and new small sided leagues emerge.

Motorsports



What If...

- 1 More on course practice before racing
- 2 Shift 2020 season to winter
- 3 Rotate team developmental riders/drivers during races for 25% of laps

Positive Effects

- 1 + Racers are more familiar with the track before racing, reducing crash risk.
- 2 + Return to racing in safer circumstances following COVID-19. Reduces heat related rider/driver stress. Winter conditions may add excitement to racing.
- 3 + Gives young talent experience. Reduces primary rider/driver fatigue.

Negative Effects

- Each lap costs money (tires, fuel, engine). Greater comfort with the course may lead to higher speeds thus more spectacular crashes.
- Indianapolis 500 could be snowed out.
- Eliminates competitive advantage for most resilient drivers.

Second Order Effects

- » Timed practices lead to more fan engagement. Time trial events become popular. Eventually multi-day events emerge, leading to more revenue opportunities.
- » New winter race series are created.
- » More strategy involved in exchanges. Better driver development programs enhances motorsports.

NCAA Sport

What If...

- 1 Athletes injured in Fall 2020 are awarded automatic redshirt season

Positive Effects

- 1 + Injured athletes have an extra year of status, addressing potential issues with reduced preseason training.

Negative Effects

- Fewer scholarships for 2021 incoming freshmen/new talent.

Second Order Effects

- » College athletes are empowered, further shifting the dynamic between schools and athletes.



“THE FUTURE IS AN UNKNOWN, BUT A SOMEWHAT PREDICTABLE UNKNOWN. TO LOOK TO THE FUTURE WE MUST FIRST LOOK BACK UPON THE PAST.”

— Albert Einstein

The Future is an Unknown...

None of us have a crystal ball to predict what the immediate future holds, much less the next two to three years, but we can control today what is in our grasp. The point of the preceding pages was to help give both tools to guide decision making and provocations to get our collective creative juices flowing.

Our hope is that one “What If” or one guideline spurs an idea or thought that you can build on to make our return to play safer today and our sports more exciting in the future. There are millions of ways we can do that together, and if you’re the sort of person who wants more, then please reach out to us at info@breakawaydata.com or you can reach me directly at steve@gainsgroup.com.

This playbook was the effort of a supremely talented group of sport insiders working across some of the best organizations in the world. A special thanks to Kim, Felice, Kate, Laura, Brandon, and Matt who each went above and beyond in contribution and collaboration.

If you or your organization is interested in creating your own playbook or working on the next one with us please join our consortium of global clubs making a difference today.