

# The Use of Various Recovery Modalities throughout a Training Year

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# Break Down of a Year in Sports

- **Macrocycles**
  - Entire Calendar Year
- **Mesocycle**
  - Block within That Season
    - Preseason
    - Regular Season
    - Post Season
    - Off Season
- **Microcycle**
  - Week to Week
    - Practices
    - Training
    - S&C

## 2022 CALENDAR

JANUARY	FEBRUARY	MARCH	APRIL
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
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28	28	28	28
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30	30	30	30
31	31	31	31

  

MAY	JUNE	JULY	AUGUST
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
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30	30	30	30
31	31	31	31

  

SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1	1	1	1
2	2	2	2
3	3	3	3
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30	30	30	30
31	31	31	31



# Four Different Mesocycles over the Year

- Preseason
  - Regular Season
  - Post Season
  - Off-Season
- 
- Different Requirements for Each
  - Should Our “Recovery” Plan Mimic This?



# Preseason

- Athlete Goals

- Feel Better = Perform Better
- Quick Turnaround between Practices
  - Often Frequent, High Intensity Bouts of Work



# Preseason

- What Is Happening to the Body
  - High Levels of Stress <sup>2,8</sup>
  - High Central Nervous System Requirements <sup>3</sup>



# Preseason



- How Can We Help This Athlete Recover
  - Reduce Inflammation
  - Prioritize Sleep <sup>4</sup>



Regular Season

- Athlete Goals
  - Staying Healthy
  - Peaking on Game Day



**GAMEDAY**

# Regular Season

- What's Happening
  - Increase of Bumps and Bruises, Resulting in Loss of Function
  - Chronic Injuries





# Regular Season

- How Can We Help This Athlete Recover
  - Active Recovery <sup>6,9</sup>
  - Identifying and Correcting Deficits <sup>1</sup>



# Post Season



- **Goals**
  - Win
  - Feel As Good As Possible, Given the Circumstances



# Post Season

- What's Happening
  - Stress Levels Increase <sup>2,8</sup>
  - Chronic and Overuse Injuries



# Post Season



- How Can We Help
  - Reduce Inflammation
  - Maintain Tissue Integrity <sup>5, 6, 9</sup>



# Off Season

- **Goals**

- Make Athletic Gains
- Rehabilitate Previous Injuries



# Off Season

- What's Happening
  - Highest Level of CNS Usage<sup>3</sup>
  - Greater Tax on Cardiovascular System



# Off Season

- How Do We Help

- Get More Sleep <sup>4</sup>
- Encourage the Right Kind of Inflammation
  - Is Ice Bath the Best? <sup>7</sup>





# Take Home Points

- **Understand Each Modality**
- **Put Your Plan In To Context of Your Season**
  - Goals for the Team?
  - Goals for this Individual Athlete?
- **Use Your Best Clinical Judgement**
  - Use a Blend of All Tools You Have Available



# Three Sentence Summary

- Sleep Better Than You Are Sleeping Now
- Drink More Than You're Drinking Now
- Eat Better Than You're Eating Now

1. Bonazza, Nicholas A., et al. "Reliability, Validity, and Injury Predictive Value of the Functional Movement Screen: A Systematic Review and Meta-Analysis." *The American Journal of Sports Medicine*, vol. 45, no. 3, 21 Apr. 2016, pp. 725–732., <https://doi.org/10.1177/0363546516641937>.
2. Hamlin, Michael John, et al. "Monitoring Training Loads and Perceived Stress in Young Elite University Athletes." *Frontiers in Physiology*, vol. 10, no. 34, 29 Jan. 2019, pp. 1–12., <https://doi.org/10.3389/fphys.2019.00034>.
3. Jensen, Jesper Lundbye, et al. "Motor Skill Training and Strength Training Are Associated with Different Plastic Changes in the Central Nervous System." *Journal of Applied Physiology*, vol. 99, no. 4, 12 May 2005, pp. 1558–1568., <https://doi.org/10.1152/japplphysiol.01408.2004>.
4. Milewski, Matthew D., et al. "Chronic Lack of Sleep Is Associated with Increased Sports Injuries in Adolescent Athletes." *Journal of Pediatric Orthopaedics*, vol. 34, no. 2, Mar. 2014, pp. 129–133., <https://doi.org/10.1097/bpo.0000000000000151>.
5. Pearcey, Gregory E., et al. "Foam Rolling for Delayed-Onset Muscle Soreness and Recovery of Dynamic Performance Measures." *Journal of Athletic Training*, vol. 50, no. 1, 1 Jan. 2015, pp. 5–13., <https://doi.org/10.4085/1062-6050-50.1.01>.
6. Reilly, Thomas, and Bjorn Ekblom. "The Use of Recovery Methods Post-Exercise." *Journal of Sports Sciences*, vol. 23, no. 6, 24 July 2005, pp. 619–627., <https://doi.org/10.1080/02640410400021302>.
7. Roberts, Llion A., et al. "Post-Exercise Cold Water Immersion Attenuates Acute Anabolic Signalling and Long-Term Adaptations in Muscle to Strength Training." *The Journal of Physiology*, vol. 593, no. 18, 13 Sept. 2015, pp. 4285–4301., <https://doi.org/10.1113/jp270570>.
8. Stults-Kolehmainen, Matthew A., and Rajita Sinha. "The Effects of Stress on Physical Activity and Exercise." *Sports Medicine*, vol. 44, no. 1, 13 Jan. 2014, pp. 81–121., <https://doi.org/10.1007/s40279-013-0090-5>.
9. Wiewelhove, Thimo, et al. "A Meta-Analysis of the Effects of Foam Rolling on Performance and Recovery." *Frontiers in Physiology*, vol. 10, 9 Apr. 2019, <https://doi.org/10.3389/fphys.2019.00376>.