

PRACTICING FOR PEAK PERFORMANCE

Christine Guptill, PhD, OT (AB) *"empowering the whole people"*

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Outline

- Identify health-related factors that influence practicing: intensity, duration, work-rest ratio, stress, and diet;
- Explain the impact of sleep, caffeine, and alcohol on performance and practicing;
- Apply concepts of goal setting, deliberate practice, visualization, planning, and reflection to assist students in planning practice;
- Utilize the sports concepts of periodization and tapering in planning practice

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Ergonomics

- The science of fitting the job to the worker; task to the person
- Risk factors for musculo-skeletal disorders (MSD):
 - Repetitive work
 - Awkward postures
 - Static loading
 - High cognitive load
 - Exacting demands

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Ergonomics

- Breaks vs. micro-pauses
- 5-15 sec
- Look away; change positions
- Tip: play the rests!



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Ergonomic Solutions

- Take frequent breaks
 - How often? For how long?
 - Frequent, short breaks (Chakrabarty, 2016)
 - Break every 15-30 min (van Dieen & Vrieling, 1998)
 - 15-45 minutes in standing

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Ergonomic Solutions

- Negative:
 - Rigidity in working methods
 - Prolonged working time
 - Inadequate rest break during the working day
 - Dissatisfaction regarding earnings
 - Monotonous work
 - Static sitting posture
 - Repetitive movement of wrist and forearm
- More frequent and shorter breaks = more MSK improvement

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Breaks

- Don't have to be 'rest'!
- Use them for:
 - Visualization
 - Singing parts
 - Marking parts
 - Journaling
 - Change positions


Stress Management

- Exercise: possibly the most important element
- Include cardio, core, proximal stability
- The best exercise is the one you will do!
- Stairs for stress




Diet for Stress

- Diet:
 - Whole grains
 - Lots of protein (incl. beans / pulses, nuts, yoghurt)
 - <https://pulses.org/nap/what-are-pulses/>
- B & C vitamins (may need B12 if veg)
 - Leafy greens, peas, fruit
 - B vitamins in dairy, fish, eggs and meat



Diet

- Eating on the road
 - Hard: venues, airports, fast food (Cizek, 2016)
 - Pack the snacks!
 - Carbs are not all bad!
 - Whole grain, protein can help
- Fact sheets: Athletes and the Arts
<http://athletesandthearts.com/fact-sheets-outreach/>



Nutrition Fact Sheet | Issue 2 | May 2010

Eating on the Road

Scenario
Due to my work schedule and performance tours, I often eat away from home. On the run it's challenging to choose healthy foods that help me perform well. How can I meet my performance nutrition goals when eating away from home?

Goals for Eating on the Road

- **Carbs**-carbohydrates at each meal and pre- and post-performance, for fuel and to replenish muscle energy stores
- **Protein**-moderate amounts of **lean** protein at each meal, small amounts in pre- and post-performance snacks, to speed recovery and repair muscles
- **Fat**-healthy fats at each meal to meet needs for energy balance and help replace muscle energy stores
- **Fluids**-enough to maintain hydration and replace fluids lost during performance and travel

Fast Food Ideas




Sports, Cardiovascular, and Wellness Nutrition
Health Care Providers
American Dietetic Association
RD, RDN, CNSC, CDE, FAHA
Association



Hydration

- Pee: almost clear!
- Intake includes juicy fruit, lettuce, soups, yogurt, etc.
- Drink at every meal
- Water instead of juice, soda
- Water before a meal can help
- Careful: dairy, orange juice for reed players



Hydration

Scenario
 For my practices and performances, I bring a water bottle and drink when I get thirsty. My activity can last 3-4 hours and I tend to sweat a lot. After I finish, I am physically spent and don't feel completely recovered before the next event. If I have time, I grab a sports drink for the ride home. When, what, and how much should I drink to improve my energy and performance?

Goals of Hydration


- Begin activity well hydrated by drinking fluids during the day and within the hour before the activity.
- Replace sweat losses by drinking fluids regularly during activity.
- Rehydrate after performing to replace weight lost as fluid during activity.
- Follow a personalized fluid replacement plan to prevent the consequences of excessive (>2% body weight loss) dehydration such as early fatigue, cardiovascular stress, increased risk of heat illness, and decreased performance.

Fluids Surrounding Performing



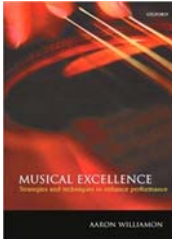

Caffeine and Alcohol

- Stimulant; depressant
- Both diuretics: contribute to fluid loss
- Caffeine: shaking, symptoms of stress, anxiety
- Alcohol: slower reaction time; mood
- Avoid both within several hours of performance
 - 4-6 hours for caffeine




How to Practice

- *Musical Excellence*, Aaron Williamon, RCM
- *Bulletproof Musician*
<https://bulletproofmusician.com>


The Bee in my Bonnet

- Time-related practice goals
- Quality vs Quantity
- Should depend on instrument, rep, external factors (mood, temperature, symptoms)




The Power Law of Practice

- “The speed of performance...increases as a power function of the number of times the task is performed”
- i.e., practice makes FASTER
- Plateau: must re-organize, restructure




Strategies that Work

- Mix practicing parts with run-throughs
- Use a structure to guide practice
- Limit errors
- Correct errors





Deliberate Practice

- Emil Sauer (pianist): “One hour of concentrated practice with the mind fresh and the body rested is better than four hours of dissipated practice with the mind stale and the body tired.”





Deliberate Practice

- “Simply accumulating hours of practice will not inevitably result in exceptional skill”
- Deliberate: “highly structured activity with the explicit goal of improving some aspect of performance”
- Quality is related to quantity of *deliberate* practice




‘Pregnant’ Pauses

- Non-stop practice does NOT mean non-stop playing!
- Thinking takes time: Preview (pre-listening), Evaluate, Plan
- Shorter sessions more effective: concentration, physical
- Important to be well-rested



Setting goals

- Work on new pieces in smaller segments
- Limits number of problems to deal with
- Able to focus on, and solve, those problems
- Motor learning: avoid developing bad habits by playing through mistakes (work vs. runs)




Strategies for Practice

- Three steps:
- Planning and preparation
- Execution
- Observation/Evaluation


Planning and Preparation

- Enhance concentration/motivation (e.g. contracts with self; practice ‘bank’, planning the investment; playing new rep in the am)
- Balance playing with non-playing
- Break out of routines; warm up should be suited to this practice session





Motivation

- Wanting to practice for self/ satisfaction
- Attribution: success results from own efforts
- Self-efficacy: Belief that they can improve, and that practice will improve playing
- *Need success to stay motivated!*




Setting Goals

- Every practice session, every time
- Keep a log / journal or vlog
- Helps to ensure deliberate practice (Ericsson, 1993)



Execution Strategies

- Mental rehearsal
- The score contains a wealth of information! Can be used:
 - Before playing
 - As a physical 'break'
 - After playing as a reminder




Mental Rehearsal

- Using multiple senses to simulate; produces activity in motor cortex!
- Improves memory, practice efficiency, attention & interest, control over negative emotions, peak experiences


Execution Strategies

- Three types of practice:
 - Play through several times
 - Concentrate only on parts before attempting to master the whole
 - Combine: play through and stop en route; play through to get familiar, then select parts to work on
- Change up you strategies to stay fresh





Evaluation Strategies

- Use recordings, video
- Write out most important errors for your instrument, as well as your own most common errors
- Handling errors: Practicing whole sections then focusing on errors within seems to be best




Evaluation Strategies

- Constructive self-talk
- Practicing must be practiced!
- Observe; concentrate on one or two things


Preparing for/Reviewing Performance

- Write down: how did you prepare – physically, emotionally, cognitively? What worked well? What do you want to change? What else could you have done?
- Do the same for reviewing success after performance.




Periodization and Tapering

- Progressive cycling of aspects of a training program to reach peak performance at a particular time
- The gist: Plan out your practicing leading up to recital / jury
 - Early phase: acquiring the repertoire; short sessions
 - Second: building strength: longer sessions
 - Third phase: intense practice of difficult passages, relatively shorter
 - Fourth phase: **Back off training** (transition)



The Big Picture

- Keep the 'artistic image' in mind
- Switch attention from details to big picture
- Ability to do this increases with experience
- Use musical structure to organize practice; students who are quicker to grasp musical shape give better performances




Thank you!



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