

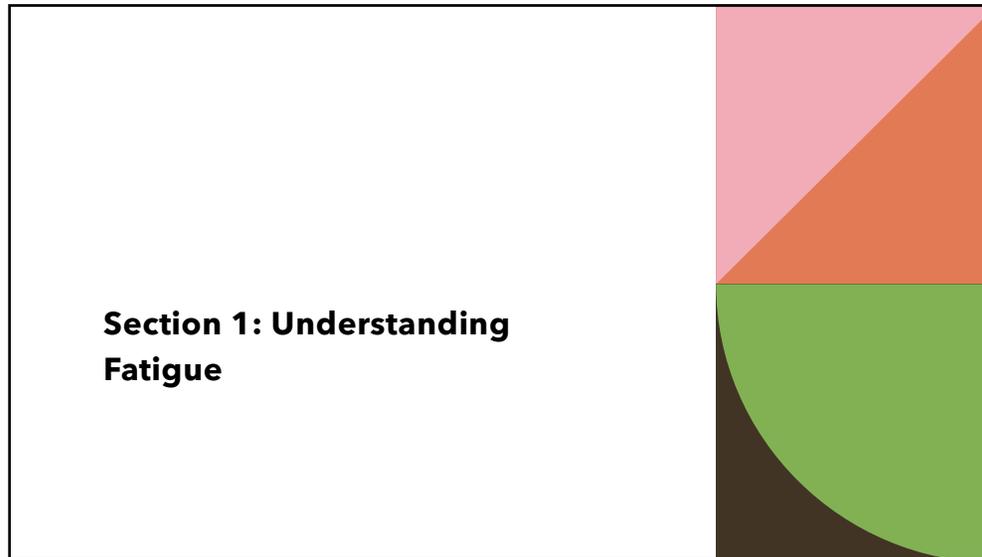
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**Intro:**

- For brass players, what is endurance?
  - "Endurance describes the amount of time that brass players can perform on their instrument with their best sound before they need a significant period of rest."
  - *Continuous playing and successive periods of playing*
- What do we want from our brass students?
  - "In general, we want our students to be able to perform with their best sound for the duration of a rehearsal and concert program and be able to do the same thing the next day."

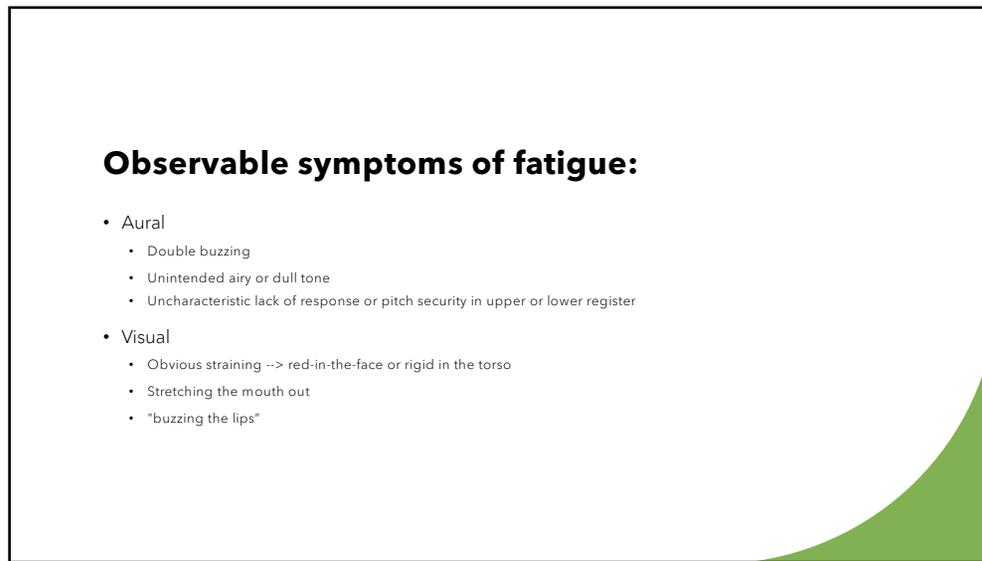
The slide features a white background on the left with the title and bullet points in black text. To the right, there is a vertical decorative panel divided into two sections: a pink curved shape at the top and a close-up image of a brass instrument (likely a trumpet or trombone) at the bottom. The right side of the slide is a large image with a warm, orange-to-red gradient background, overlaid with a network of white dots and lines, resembling a molecular or digital structure.

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## Section 1: Understanding Fatigue

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### Observable symptoms of fatigue:

- Aural
  - Double buzzing
  - Unintended airy or dull tone
  - Uncharacteristic lack of response or pitch security in upper or lower register
- Visual
  - Obvious straining --> red-in-the-face or rigid in the torso
  - Stretching the mouth out
  - "buzzing the lips"

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## For brass players, what is fatigue?

- 2 types:
  - **"Inside the mouthpiece"**  
Inflammation/Swelling of the tissue in the center of the lips
  - **"Around the mouthpiece"**  
Muscle soreness in the areas surrounding the mouthpiece



### Further Reading:

[Farkas, Phillip. \*The Art of Brass Playing\*.  
pg. 10 - 16](#)

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## Phrases our students use to describe fatigue:

### Inside the mouthpiece (in the center of the lips):

- "rubbery"
- "puffy"
- "stiffness" or "lack of response"
- The mouthpiece "feels small"

### Outside the mouthpiece (in the cheeks or chin muscles):

- "heaviness"
- "burn"
- "soreness"

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**Conventional Wisdom:**

1. Strong embouchure = strong brass playing
2. Brass endurance builds like a muscle -> "No Pain, No Gain"



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**Problems Arising from "chronic fatigue":**

Further Reading:  
• [Lewis, Lucinda. Broken Embouchures.](#)

"Chronic fatigue" describes a player's feeling that they are always tired when they play.

2 most common approaches that develop in students that are chronically fatigued:

Excessive force to create an initial tone	Overly defensive approach to playing
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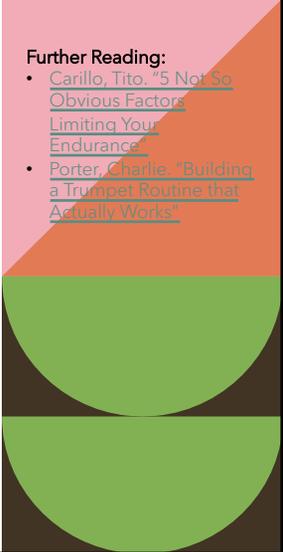
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## Causes of Fatigue in Brass Players:

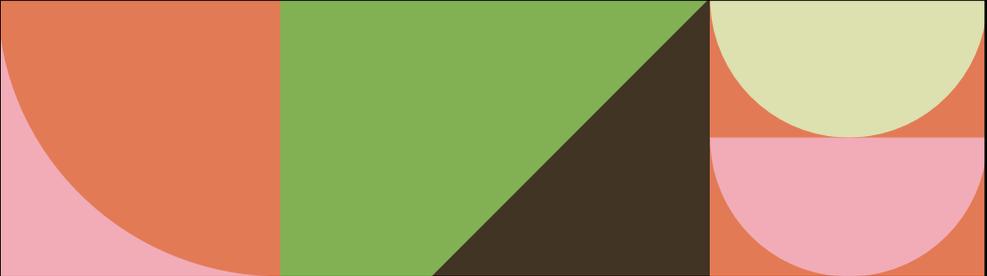
- Characteristics of Repertoire:
  - High, Loud/Extremely Soft, Sustained
  - John Williams, Long Lyrical (O Magnum Mysterium), Sam Hazo, David Maslanka
- Young students run into problems when they approach these passages with unsustainable techniques:
  - Twin Sins: Overblowing/Holding back their wind
  - Playing with a jaw that is too open
  - These lead to **Excessive Pressure**
  - Keeping the mouthpiece pressed against the lips.

**Further Reading:**

- [Carillo, Tito. "5 Not So Obvious Factors Limiting Your Endurance"](#)
- [Porter, Charlie. "Building a Trumpet Routine that Actually Works"](#)



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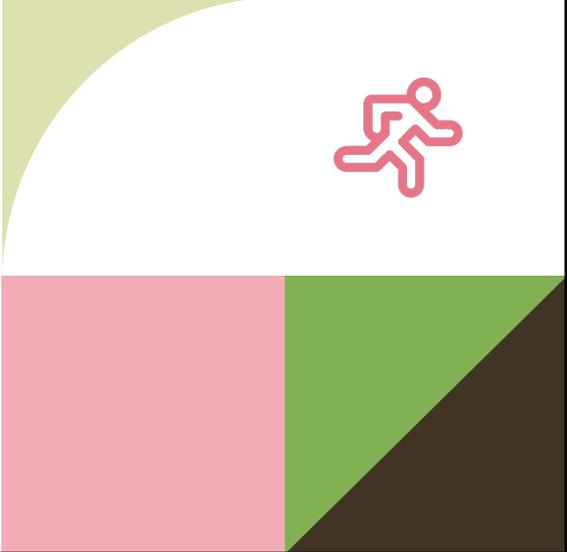


## Section 2: Coaching Our Students

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### Fostering Endurance: Endurance Training, not Strength Training

- Strong embouchure = Strong Brass  
Endurance → **Not the full story.**
- Principles:
  1. "Inside the Mouthpiece" fatigue → Tissue is a finite resource.
  2. Rest will heal tissue, but daily cycles of strain and recovery don't foster resilience.
  3. In most cases, endurance is not developed after we are inflamed 'inside the mouthpiece'.



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### Approaches from Endurance Athletes:

1. Identify efficient form
2. Prepare the body before training
3. Increase training volume judiciously with planned time for rest
4. Have strategies in place for when you feel inevitably feel tired

### Fostering Brass Endurance:

1. Encourage efficient form
2. Prepare the body for playing
3. Gradually extend our students' ability to sustain their highest-quality approach
4. Give careful guidance for coping with Fatigue

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## Influences

Arnold Jacobs



Vincent Chicowicz



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## Approach #1: Encourage Efficient Form

- **Analogy:** Just like runners refine their form to reduce unnecessary motion and strain on their body, brass players refine their approach by increasing the efficiency of tone production.

Further Reading:

- [Nielsen, Ryan. "Finding the Five"](#)
- [Nielsen, Ryan. "Moving Long Tones"](#)

- Brass Techniques for Efficiency:

1. Create tone through wind.
2. Encourage playing in the most resonant part of the given pitch.
3. Encourage playing in tune and in time with the other players of the section.
4. Encouraging students to do all of the above softly

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## Approach #2: Prepare Our Students to Play

- **Analogy:** Just like runners warm up by stretching the range of motion in the important muscles, brass players need to warm up by accessing the range of their technique (register, dynamic, articulation, finger dexterity).

- Essential Components of Brass Warm-Ups:

1. Engage body, mind, and ears
2. Produce tone with wind
3. Gradually expand:
  - Duration
  - Dynamics
  - Register
4. Gradually incorporate:
  - Articulation
  - Wide intervals
  - Common fingering patterns

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## Caution: More Warm-Up is Not Necessarily Better

### Long tones:

Common Error:

1. Sound is "pinched" → "Air" is stagnant

Solutions:

1. "Keep the wind spinning"
2. "Flow *down* into the sound"

### Lip Slurs:

Common Error:

1. Nudging the wind to change register

Solution:

- "To change your pitch, change your whistle"

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**Resources for Warm-Ups:**

1. The Brass Gym
2. "Standard of Excellence"
3. RK Resources

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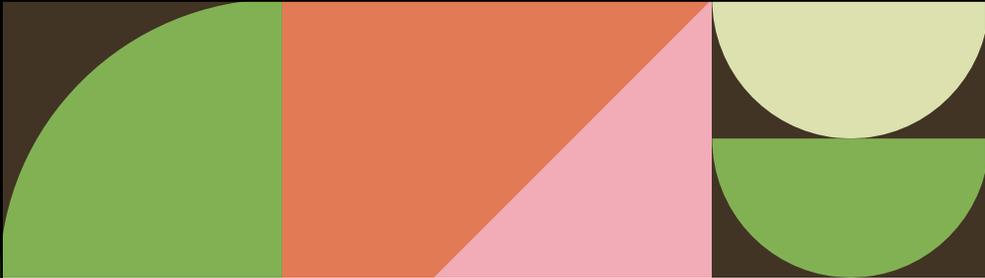
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**Structure for Warm-Ups:**

1. Developing students -> Group warm-ups
2. Advanced students -> Individual Warm-Up
  - Tailored to individual needs (1st in jazz band vs. 1st cornet in wind symphony vs. jazz soloist)

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**Approach #3:  
Sustaining Our  
Students' Best  
Brass Playing**

- **Analogy:** Just like runners gradually increase their training volume throughout their prep cycle, brass players need to gradually extend their ability to sustain their approach.

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**Ideas for Long-term  
Rehearsal  
Approaches:**

1. When possible, incorporate practice techniques that are not physically demanding
  - Singing → rhythm and style
  - Wind patterns → Breathing/artic.
  - Style in a comfortable octave
2. Being mindful of in-rehearsal pacing:
  - Most rigorous passages toward the middle of the rehearsal
  - Avoiding extended repetition
  - "Once you are warm, stay warm"
  - Engage breathing after very long rests
3. Use full run-throughs deliberately and progressively.



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## Ideas for the Day of the Concert:

1. Use full-run-throughs **sparingly**
2. Release long sustains early
3. Remind students that last-minute cramming is **not necessary** -> trust the preparation



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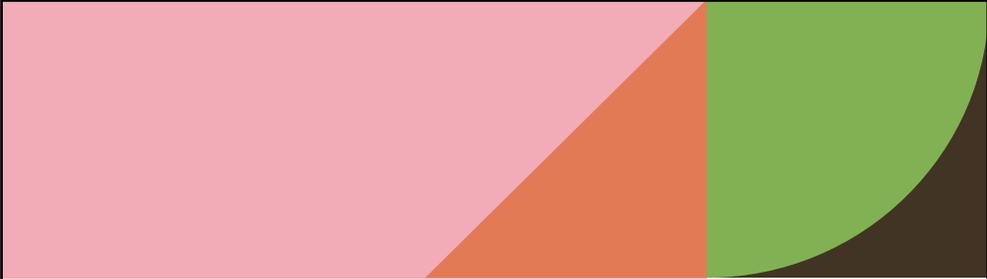
## Approach #4: Give Careful Guidance for Coping with Fatigue

**Analogy:** There's no way to avoid it - running a marathon is exhausting.

Just like runners have a plan for when they get tired, brass players need to have mental strategies for coping when they start to feel tired.



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**Well-intended Guidance that Tends to Backfire:**

1. "Take it easy this time" → Light, defensive playing
2. "Be more relaxed" → "Lazy wind" or "lack of energy in sound"
3. Taking things down an octave → Trains a defensive response

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**Approach #4: Give Careful Guidance for Coping with Fatigue**

Before they are tired:	While they are tired:	After they are tired:
<ul style="list-style-type: none"> <li>• Hydration</li> <li>• Balance Rest/Play</li> <li>• Lip Care:                             <ul style="list-style-type: none"> <li>• Vitamin E</li> <li>• "Chopsaver"</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Focus on the "song" and the exhale.</li> <li>• "Wind has no muscles, it doesn't get tired." - Dr. Austin Seybert</li> </ul>	<ul style="list-style-type: none"> <li>• Listen to the body and rest</li> </ul>



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**Overview:**

- For developing students, “inside the mouthpiece fatigue” is frequently the root of endurance problems.
- Because this affects tissue rather than muscle, the development of endurance more closely resembles *endurance training* than *strength training*.

Key Points:

**Approach #1: Encourage Efficient Form**  
**Approach #2: Prepare Our Students to Play**  
**Approach #3: Sustaining Our Students’ Best Brass Playing**  
**Approach #4: Give Careful Guidance for Coping with Fatigue**



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**Discussion Questions:**

- For brass players, what is endurance?
- What are two types of fatigue brass players experience?
- In what ways is strength training a misleading analogy for developing endurance?

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