Which lip balm works the best?

By Anthony Cappellini
What Makes a Lip Balm “The Best”? The best lip balm provides coverage that is:

- Long-lasting
- Complete
- Stays in its original shape
PROBLEM:

Dry, cracked lips
Background Information

- There are a lot of lip balms that are available to be purchased
- Aquaphor and Chapstick are recommended by dermatologists \((7 \text{ Long Lasting, 2019})\)
- Shea butter is long-lasting \((\text{USN, 2019})\)
- Burt’s Bees is made out of beeswax unlike any other products \((\text{Burt’s Bees, 2019})\)
Research

According to US News (2019), pharmacists recommended these lip balms:

- Chapstick (22%)
- Burt’s Bees (17%)
- Blistex (15%)
- Evolution of Smooth—eos (1%)
LIP BALMS
Lip Balm #1—Burt’s Bees

- Original formula
- Made from beeswax
- Vitamin E moisturizes
- Peppermint oil adds refreshing tingle
Lip Balm #2—Evolution of Smooth ("eos")

- Sweet Mint
- Deeply hydrates and seals in moisture
- Contains sustainably sourced ingredients
Lip Balm #3—Blistex

- Medicated Lip Balm
- No flavors, colors or fragrances
- Made from cocoa butter (moisturizing properties)
- Made from shea butter (maintains skin elasticity)
Lip Balm #4—Chapstick

- Classic Original
- 45% petroleum jelly to protect the skin
- Defends lips from dry, cold weather
- #1 pharmacist recommended
Lip Balm #5—Aquaphor

- Original formula
- #1 dermatologist recommended
- Seals in moisture and reduces dryness
- Preservative and fragrance free
Materials

- 5 lip balms
- 5 oranges (peels represent human lips)
- Spray bottle of H2O
- Index cards
- UV light
- Fan
- Refrigerator
Hypothesis

- Based on research, Chapstick would be the best because pharmacists have rated it the highest of the tested balms, coming in at 22%.
- Evolution of Smooth ("eos") would be the worst, coming in at 1%.
Variables and Control

Control
Original surface area covered by lip balm

Independent Variable
Types of lip balms

Dependent Variable
Residue left by lip balm after steps of procedure
Procedure

1. Apply 5cm x 2cm rectangle of each lip balm on orange using cut out index cards.
2. Place orange 10 cm in front UV light for 2 minutes.
3. Spray with water 3 times.
4. Put orange in refrigerator for 1 minute.
5. Place orange 20 cm in front of fan on High for 7 minutes.
6. Gently roll orange back and forth on new index card with light pressure (like rubbing lips together).
RESULTS
Lip Balm #1—Burt’s Bees

Observations

- Dotty
- Very minimal coating
- Smooth going on
- 6.0cm x 2.6cm
Lip Balm #2—eos
Observations

- Consistent coating
- Clumpy
- Odd shape
- 5.1cm x 2.9cm
Lip Balm #3—Blistex Observations

- Consistent coating
- Smooth and clean
- Rounded edges
- 5.7cm x 2.9cm
Lip Balm #4—Chapstick

Observations

- Very minimal coating but present
- Waxy but smooth
- 6.1cm x 2.8cm
Lip Balm #5—Aquaphor Observations

- Full coverage
- Lots of balm still present
- Liquidy going on
- 5.7cm x 3.2 cm
### Results

<table>
<thead>
<tr>
<th>Lip Balm</th>
<th>Application</th>
<th>Residue Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burt’s Bees</td>
<td>Full coverage, smooth</td>
<td>Very minimal</td>
</tr>
<tr>
<td>Eos</td>
<td>Full coverage, thick</td>
<td>Consistent, clumpy, odd shape</td>
</tr>
<tr>
<td>Blistex</td>
<td>Full coverage, smooth and clean</td>
<td>Consistent, rounded</td>
</tr>
<tr>
<td>Chapstick</td>
<td>Full coverage, waxy</td>
<td>Very minimal but present</td>
</tr>
<tr>
<td>Aquaphor</td>
<td>Full coverage, liquidy</td>
<td>Lots of balm still present</td>
</tr>
</tbody>
</table>
Measurements by Lip Balm

<table>
<thead>
<tr>
<th>Lip Balm</th>
<th>Length</th>
<th>Width</th>
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<tbody>
<tr>
<td>Chapstick</td>
<td>6.1cm</td>
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</table>

Original coverage application 5.0cm x 2.0cm
Measured Residue in cm

- Control/Initial application: 5
- Chapstick: 6.1
- Aquaphor: 5.7
- Eos: 5.1
- Blistex: 5.7
- Burt's Bees: 6

Legend:
- Length
- Width
Data Analysis

- Evolution of Smooth ("eos") was closest to the initial application shape dimensions (5.1cm x 2.9cm)
- Burt’s Bees had the most similar shape
- Aquaphor had the most lip balm remaining
- Chapstick had the least amount of coating left
Aquaphor was the best lip balm of the five that the researcher tested:
- Full coverage
- Most amount of lip balm still present after the procedure
Chapstick was the worst because it lacked effective coverage after the procedure
Conclusion

• The original hypothesis was that Chapstick would be the best and Evolution of Smooth ("eos") would be the worst
• The findings from this experiment did not support either initial hypotheses, so they were rejected
Future Recommendations

- Use different lip balms
- Do more trials
- Make a longer procedure
- Use pigs’ feet to simulate a human lip
Thank you for your attention! Any questions?
Resources


Resources Continued


