OBJECTIVE: To elucidate the diagnostic criteria of Raynaud phenomenon of the nipple that will aid in recognizing and treating Raynaud phenomenon in breastfeeding mothers with chronic deep nipple pain during lactation.

RESULTS: Among the 22 patients with Raynaud phenomenon of the nipple, previous treatment for Candida mastitis with oral or topical antifungals was ineffective in 20 (91%). Of the 12 patients who tolerated a trial of nifedipine, 10 (83%) reported decreased or resolved nipple pain. All patients experienced marked improvement of symptoms with appropriate therapy involving treatment of Raynaud phenomenon.

CONCLUSIONS: Most patients were treated with antifungals before presentation without resolution of nipple pain. Nifedipine appears to be an effective medication for the treatment of Raynaud phenomenon of the nipple. With appropriate management of Raynaud phenomenon, breastfeeding mothers demonstrated improvement of nipple pain. Raynaud phenomenon of the nipple should be considered in the differential diagnosis of nipple pain during lactation.


APPLEDICE

An Underdiagnosed Cause of Nipple Pain

Honor Fullerton Stone, MD; Jenny E. Murase, MD

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Author Affiliations: University of Southern California, Keck School of Medicine, Los Angeles (Ms Barrett); Transitional Year Medicine Program, Harbor-UCLA, Torrance, California (Dr Heller); Department of Dermatology, Emory University, Atlanta, Georgia (Dr Heller); Menlo Dermatology Medical Group, Menlo Park, and Department of Dermatology, Stanford University Medical Center, Stanford, California (Dr Fullerton Stone); and Departments of Dermatology, Palo Alto Foundation Medical Group, Mountain View, and University of California, San Francisco (Dr Murase).
Raynaud phenomenon is characterized by vasospasm of arterioles, causing intermittent ischemia, and subsequent reflex vasodilatation. Classically, an episode of vasospasm presents as triphasic or biphasic color change. Ischemia is manifested as pallor, followed by desaturation in severe episodes that result in cyanosis, followed by reflex vasodilatation and reperfusion manifested as erythema. Raynaud phenomenon can be classified as primary or secondary based on the cause. Primary Raynaud phenomenon is idiopathic, whereas secondary Raynaud phenomenon is due to an underlying cause, usually a connective tissue disorder. This article focuses on primary Raynaud phenomenon.

Raynaud phenomenon is commonly seen in the hands and feet, affecting up to 22% of women of childbearing age (21- to 50-year age group). Although less common, Raynaud phenomenon involving the tongue has also been reported. Women of childbearing age are at increased risk of developing Raynaud phenomenon because it is an exaggerated vasomotor response associated with elevated estrogen and stress. Estrogen increases smooth muscle expression of $\alpha_{2c}$-adrenoreceptors, which are associated with cold-induced constriction of cutaneous arteries. In addition, emotional stress provokes increased release of norepinephrine from the sympathetic nervous system, which binds to upregulated adrenergic receptors in vessel walls. Adrenergic receptors are upregulated because of chronic nerve irritation. Breastfeeding can be stressful, initiating a positive feedback loop. Although there are few reported cases of Raynaud phenomenon of the nipple among breastfeeding mothers, the largest series being a cohort of 12 patients, the phenomenon of the nipple among breastfeeding mothers, the largest series being a cohort of 12 patients, the phenomenon of the nipple among breastfeeding mothers, the largest series being a cohort of 12 patients, the phenomenon of the nipple had chronic deep breast pain (in general, lasting $\geq 4$ weeks) that responded to therapy for Raynaud phenomenon and had at least 2 of the following: (1) observed or self-reported color changes of the nipple, especially with cold exposure (white, blue, or red); (2) cold sensitivity or color changes of the hands or feet with cold exposure; or (3) failed therapy with oral antifungals.

Eighty-eight nursing mothers presented with nipple pain and dermatitis during this period. Of the 88 women, 22 (25%) were diagnosed as having Raynaud phenomenon of the nipple based on these criteria. A 25-question follow-up survey was administered by telephone to those patients diagnosed as having Raynaud phenomenon of the nipple to better understand the quality of pain and symptoms experienced, the association with underlying autoimmune diseases, and the patient response to therapy with warming techniques or nifedipine, if indicated. Of the 22 women, 18 (82%) completed this survey. Of the 4 women who did not complete the survey, follow-up documented in the medical record (H.F.S.) was performed to assess overall response to treatment (Table 1 and Table 2).

## RESULTS

### PATIENT HISTORY

#### Pain Description

Among the 22 breastfeeding mothers diagnosed as having Raynaud phenomenon of the nipple, all had seen at least 1 other health care professional before coming to us. Most patients (17 [77%]) reported that the initial onset of nipple pain occurred within the first 2 weeks postpartum, 4 (18%) described pain within the first 2 months post partum, and 1 (5%) noted pain at 9 months.

In the follow-up survey of 18 breastfeeding mothers, the quality of pain (ie, the timing and duration of nipple pain in relation to breastfeeding) was further elicited. Among the 18 women surveyed, all experienced pain during breastfeeding. More specifically, 5 (28%) reported increased pain at the beginning of lactation and 13 (72%) experienced pain before, during, and after lactation. Women described a range of pain characteristics, from moderate pain to a severe sharp, shooting, or stabbing pain.

#### Candida Infection

Patients with Raynaud phenomenon of the nipple are often misdiagnosed as having Candida mastitis. Among the 22 patients with Raynaud phenomenon of the nipple, previous treatment for Candida mastitis with topical or oral antifungals was ineffective in 20 (91%). Notably, in 18 (82%), at least 1 course of oral fluconazole therapy had failed. In addition, only 11 patients (50%) indicated that their infant had been previously treated with nystatin or had a history of a white coating in the mouth on the gums or tongue suggestive of thrush.

#### Raynaud Phenomenon

In the follow-up survey, 17 of 18 patients (94%) reported a history of cold sensitivity or color change in their hands and feet. Of the 4 patients who did not complete the follow-up survey, 3 had medical record–documented cold sensitivity or color change in their hands and feet. In total, 20 of 22 patients (91%) met this criterion.

Raynaud phenomenon is sometimes associated with underlying autoimmune diseases, specifically connective tissue disorders. The referring center for breastfeeding mothers at Menlo Dermatology Medical Group from January 1, 2004, through December 31, 2010. The institutional review board of Sequoia Hospital, a subsidiary of Dignity Health, has approved the retrospective review and follow-up survey of patients diagnosed as having Raynaud phenomenon of the nipple among patients who presented with breast and nipple pain.

Patients who met diagnostic criteria for Raynaud phenomenon of the nipple had chronic deep breast pain (in general, lasting $\geq 4$ weeks) that responded to therapy for Raynaud phenomenon and had at least 2 of the following: (1) observed or self-reported color changes of the nipple, especially with cold exposure (white, blue, or red); (2) cold sensitivity or color changes of the hands or feet with cold exposure; or (3) failed therapy with oral antifungals.

### METHODS

We conducted a retrospective medical record review of breastfeeding mothers presenting with nipple pain and dermatitis. Only patients diagnosed as having Raynaud phenomenon of the nipple were included in this study. All patients were evaluated by one of us (H.F.S.) in the referral center for breastfeeding mothers at Menlo Dermatology Medical Group from January 1, 2004, through December 31, 2010. The institutional review board of Sequoia Hospital, a subsidiary of Dignity Health, has approved the retrospective review and follow-up survey of patients diagnosed as having Raynaud phenomenon of the nipple among patients who presented with breast and nipple pain.

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tive tissue disorders, such as lupus and scleroderma, and is then referred to as secondary Raynaud phenomenon.

On questioning the patients regarding their medical history, 2 patients (11%) had a history of autoimmune disease, 1 with lupus and Sjögren syndrome and 1 with celiac disease. These were the only patients who had a known positive antinuclear antibody test result; all other patients documented a negative or unknown antinuclear antibody test result. Raynaud phenomenon of the nipple also has been correlated with previous breast surgery. Of note, 2 patients (11%) reported a history of breast surgery, including cyst removal and benign lump excision.

### PHYSICAL EXAMINATION

As previously described, all 22 patients met at least 2 of the 3 diagnostic criteria. Classically, the diagnosis of Raynaud phenomenon of the nipple is characterized by identifying biphasic or triphasic color change of the affected tissue (Figure 1). Color change of the nipples was noted in only 14 of the 22 patients (64%) diagnosed as having Raynaud phenomenon. Interestingly, of these 14 patients, 8 met all 3 diagnostic criteria, with noted color change or cold sensitivity of their acral surfaces plus failed oral antifungal therapy. In the remaining 8 patients who did not have re-

### Table 1. Characteristics of the Study Patients Diagnosed as Having Raynaud Phenomenon of the Nipple

<table>
<thead>
<tr>
<th>Patient No./Age, y</th>
<th>Onset of Pain Post Partum</th>
<th>Pain While Breastfeeding</th>
<th>Pain Before and After Breastfeeding</th>
<th>Pain Characteristic</th>
<th>Topical Antifungal Therapy for Candida Mastitis Failed</th>
<th>Oral Fluconazole Therapy for Candida Mastitis Failed</th>
<th>Infant With History of Oral Thrush</th>
<th>Cold Sensitivity or Color Change of Hands and Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/29</td>
<td>Immediately</td>
<td>Yes</td>
<td>No</td>
<td>Sharp, shooting pain</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2/33</td>
<td>6 wk</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>3/39</td>
<td>Immediately</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>4/38</td>
<td>3 d</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>5/40</td>
<td>2½ wk</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>6/39</td>
<td>Immediately</td>
<td>Yes</td>
<td>No</td>
<td>Pain worse at the beginning</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>7/36</td>
<td>2 wk</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>8/37</td>
<td>Immediately</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>9/31</td>
<td>Immediately</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>10/35</td>
<td>5 d</td>
<td>Not indicated in record</td>
<td>Not indicated in record</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>11/31</td>
<td>3 d</td>
<td>Not indicated in record</td>
<td>Not indicated in record</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>12/30</td>
<td>Immediately</td>
<td>Yes</td>
<td>Yes</td>
<td>Sharp pain</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>13/36</td>
<td>Immediately</td>
<td>Yes</td>
<td>Yes</td>
<td>Sharp pain</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>14/33</td>
<td>1½ wk</td>
<td>Not indicated in record</td>
<td>Not indicated in record</td>
<td>Sharp, shooting pain</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>15/35</td>
<td>1 wk</td>
<td>Not indicated in record</td>
<td>Yes</td>
<td>Sharp, shooting pain</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>16/43</td>
<td>4 wk</td>
<td>Yes</td>
<td>Yes</td>
<td>Sharp, burning pain</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>17/31</td>
<td>1 wk</td>
<td>Not indicated in record</td>
<td>Not indicated in record</td>
<td>Sharp pain</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>18/47</td>
<td>9 mo</td>
<td>Yes</td>
<td>Yes</td>
<td>Sharp pain</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>19/26</td>
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<td>Yes</td>
<td>Yes</td>
<td>Sharp pain</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>20/41</td>
<td>Immediately</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>21/38</td>
<td>4 wk</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>22/33</td>
<td>Immediately</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*a* Indicates that the patient did not participate in the follow-up survey.
ported or observed color change of the nipple, previous oral therapy for *Candida* mastitis had failed and all had reported cold sensitivity or color change of acral surfaces.

On physical examination, all 22 patients had engorged breasts, with mild to moderate erythema of the areola. Twenty patients (91%) had desquamation involving 1 or both nipples, and 2 (9%) patients had plugged lactiferous ducts.

### TREATMENT

**Underlying Dermatologic Conditions and Secondary Infections**

All 22 patients were prescribed a low- to middle-strength topical corticosteroid, such as desonide ointment, hydrocortisone butyrate cream, or alclometasone diproprionate cream applied twice a day for 2 weeks. In addition, all 22 patients were advised to apply petrolatum- and lanolin-based emollients 2 to 3 times a day over the prescription topical corticosteroid and in the evening. All but 2 patients (91%) were given a standard course of oral fluconazole, consisting of 400 mg orally on day 1 and then 200 mg orally on days 8 through 10. Of the bacteria cultures performed on 9 patients, 2 yielded *S aureus*, and these patients were prescribed a course of oral antibiotics. The remaining 7 cultures yielded mixed skin flora.

**Raynaud Phenomenon of the Nipple**

In addition to the therapy prescribed, all 22 women were given appropriate treatment and counseling for Ray-
naud phenomenon of the nipple. All 22 women were given the following recommendations: (1) wear warm clothing, (2) take hot showers twice daily before breastfeeding, and (3) avoid caffeine and vasoconstrictive drugs to prevent precipitation of vasospasm.

Of the 22 women, 15 (68%) were prescribed the vasodilator nifedipine, a calcium channel blocker used for the treatment of Raynaud phenomenon. Among the 15 patients prescribed nifedipine, 6 (40%) reported experiencing common adverse effects, including dizziness, headaches, decreased blood pressure, lightheadedness, and nausea from nifedipine use, 3 (20%) of whom discontinued nifedipine use. Of the remaining 12 patients who continued nifedipine use, 10 (83%) reported decreased or resolution of pain. Reported duration of nifedipine use varied widely, from 2 weeks to 2 1/2 years, with most citing a few months. Cessation of breastfeeding and seasonal changes thus remain the initial presentation of Raynaud phenomenon during lactation.

Among the 22 patients with Raynaud phenomenon, all but 1 patient experienced breast or nipple pain within the first 6 weeks post partum. Furthermore, the mothers consistently reported a history of cold sensitivity or color change of areolar surfaces. Another diagnostic indication often associated with Raynaud phenomenon is the presence of other autoimmune diseases, especially connective tissue disorders, and previous breast surgery. In addition, it can be useful to understand differences in the quality and timing of pain seen with Raynaud phenomenon of the nipple compared with other types of lactation pain (Figure 2). Among the 22 patients with Raynaud phenomenon, all but 1 patient experienced breast or nipple pain within the first 6 weeks post partum. Furthermore, the mothers consistently described pain during breastfeeding, and many described pain at all times, including before and after breastfeeding. Women reported the pain as being moderate to severe and described it as “sharp,” “shooting,” or “stabbing” pain.

Figure 1. Classic representation of Raynaud phenomenon of the nipple. Note the obvious blanching (or white color change due to transient ischemia) of the areola with cold exposure (arrow).

Figure 2. Differences in the quality of pain described in patients with milk let-down pain vs Candida mastitis vs Raynaud phenomenon of the nipple.
In contrast, mothers presenting with milk let-down pain tend to describe mild pain for the first few minutes of breastfeeding that resolves with the continuation of the feed. These women also frequently describe a recurrence of pain 12 to 15 minutes after nursing with refill. The pain generally improves during the first few weeks of breastfeeding without intervention. On the other hand, women presenting with *Candida* mastitis often experience a moderate burning-like pain, worse with latch-on and refill but persistent throughout breastfeeding. The pain tends to radiate from the nipple through the breast to the chest wall. These women will have notable relief within 1 to 3 days of taking oral antifungals. Understanding the pain profiles of these conditions can help the physician focus the patient's history in such a way to better elucidate the underlying cause of the nipple pain.

On physical examination, Raynaud phenomenon of the nipple is classically identified by biphasic or triphasic color change of the affected tissue. Although previous, though limited, literature recognizes Raynaud phenomenon of the nipple only if color change is apparent, we argue that this diagnostic criteria is too narrow for the nipple. Among our 22 patients, 14 (64%) had notable color change of the nipples and met this classic definition of Raynaud phenomenon of the nipple. Because of the natural pigmentation of the skin of the nipples, vasospasm of small vessels will be less apparent than the lighter skin of the distal extremities. In addition, identifying color change of the nipple is frequently dependent on self-reported observance. Not observing the patients during breastfeeding and variable office temperatures can influence the likelihood of witnessing vasospasm. In our study, among the 8 patients who reported color sensitivity or color change of the extremities, but not of the nipple, and in whom oral antifungal therapy had failed, 5 were prescribed nifedipine in addition to warming techniques, petrolatum application, and avoidance of vasoconstrictive substances alone. Of these 5 patients, 2 reported improvement with nifedipine use, 2 reported no change in symptoms, and 1 patient discontinued nifedipine use secondary to hypotension. Notably, all 22 women reported substantial improvement in nipple pain and were able to continue breastfeeding. The improvement in symptoms with treatment of nipple vasospasm in these patients further supports our use of broader diagnostic criteria.

As with the treatment of most eczematous dermatitis, the cause of painful nipple dermatitis in breastfeeding mothers is often multifactorial. For instance, one patient may present with a flare of atopic dermatitis, superinfection with *C albicans* infection, and Raynaud phenomenon of the nipple, whereas another patient may present with allergic contact dermatitis, superinfection with *S aureus*, and plugged lactiferous ducts. As such, treatment must address all possible contributing causes of pain. Raynaud phenomenon of the nipple is often not the exclusive reason for the nipple pain, but the vasoconstriction can be a significant contributing factor. If oral antibiotics and antifungals do not benefit the patient or the patient has any history of cold intolerance, the physician should consider Raynaud phenomenon of the nipple as a possible contributing factor.

When properly diagnosed as having Raynaud phenomenon of the nipple, patients with chronic breast pain can improve notably if they are advised to avoid exposure to cold temperature, use techniques to keep the breasts and nipples warm, and avoid vasoconstrictive substances, including caffeine and nicotine, that may precipitate symptoms. Nifedipine, approved by the American Academy of Pediatrics for use in breastfeeding mothers, is also an effective and safe medication for the treatment of Raynaud phenomenon of the nipple. In this study, nifedipine appeared to significantly improve symptoms of Raynaud phenomenon and was generally well tolerated by patients. Specifically, 10 of 15 patients (67%) prescribed nifedipine reported decreased or resolution of nipple pain. Of the remaining 5 patients, 3 discontinued nifedipine therapy secondary to adverse effects and were unable to evaluate its efficacy, and 2 noted no change in symptoms with nifedipine. However, these patients experienced symptom relief with multifactorial therapy, including warming techniques and avoidance of vasoconstrictive substances. Breastfeeding women prescribed nifedipine should be counseled on common adverse effects of nifedipine, including nausea, hypotension, tachycardia, headache, and dizziness. A trial of nifedipine sustained-release formulation should be prescribed at 30 to 60 mg/d for at least 2 weeks or until breastfeeding is discontinued. If the patient experiences common adverse effects from nifedipine, a trial of low-dose therapy at 10 mg/d may be better tolerated. Mothers should be reassured that nifedipine is transferred to breast milk in low levels, amounting to less than 5% of the maternal dose.

In conclusion, with appropriate therapy involving treatment of Raynaud phenomenon of the nipple, all patients experienced substantial improvement of symptoms and were able to continue breastfeeding. Therefore, early recognition of Raynaud phenomenon of the nipple can help prevent premature cessation of breastfeeding due to intolerable pain so that both infant and mother can experience the health, nutritional, immunologic, psychological, and social benefits of breastfeeding.
Conflict of Interest Disclosures: None reported.

Additional Contributions: Joan Bonwood, CMA, conducted the telephone interviews and provided outstanding assistance with patient care.

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The Statue of Liberty’s Complexion

For many of us, the Statue of Liberty is a reminder of how our families immigrated to this land in years past, hoping for a better future. As their ships sailed into New York Harbor, our families were greeted by the image of a “mighty woman with a torch.” That description of the Statue of Liberty was given by Emma Lazarus in her famous poem “The New Colossus,” which is engraved on a plaque located in the monument’s museum.

For over 125 years, the Statue of Liberty has endured storms, pounding rains, and the elements, which have altered her appearance. This article describes some of these cosmetic changes and their subsequent renovation, as it pays tribute to a great national landmark and to the ideals she represents. The article is also dedicated to the many talented immigrant physicians who have contributed to the spectacular growth and achievements of American medicine.

The Statue of Liberty was a gift from France to the American people to celebrate the 100th anniversary of US independence. The sculpture consists of a copper skin crafted into Lady Liberty by the French artist Frédéric Auguste Bartholdi. Its massive iron support frame was planned by the French engineer Alexandre Gustave Eiffel, and the concrete pedestal was designed by the American architect Richard Morris Hunt.

The Statue was unveiled on what is now called Liberty Island by Hurricane Sandy. For over 125 years, the Statue of Liberty needed major restoration, and the repairs were made between 1984 and 1986. The following are some of the renovations performed to the Statue’s exterior copper skin.1,2

Grit and grime were removed with pressurized fresh water. Damaged areas were patched as follows. The corroded copper was cut away. New copper of the same thickness (2.38 mm) was installed, and the patch was artificially patinated with a copper sulfate solution to match the surrounding areas. Various stains and bird droppings were carefully scraped away. This and other repair work was done in time for the Statue’s centennial celebration in July 1986. More recently, the Statue of Liberty was closed again for repairs. Its reopening in October 2012 was cut short owing to damage to Liberty Island by Hurricane Sandy.

Time may have changed the Statue of Liberty’s look, but it has not tarnished the American values she symbolizes. Her silent lips still echo the enduring words of Emma Lazarus:

Give me your tired, your poor,
Your huddled masses yearning to breathe free,
The wretched refuse of your teeming shore.
Send these, the homeless, tempest-tost to me,
I lift my lamp beside the golden door!

Leonard J. Hoenig, MD

Contact Dr Hoenig at 601 N Flamingo Rd, Ste 201, Pembroke Pines, FL 22028 (gooddocljh@gmail.com).


Notable Notes

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The Statue was unveiled on what is now called Liberty Island on October 28, 1886. Originally, the skin had a dull copper color, but after 1900 it began to develop its present-day green complexion, or patina, caused by copper oxidation in the moist air. This patina protects the sculpture from corrosion.

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