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### Contact Information

- **Associate Editor**
  - Janet Rosenberg

- **Business Office**
  - American Medical Technologists
  - 10700 W. Higgins Rd., Suite 150, Rosemont, IL 60018
  - 847-823-5169
  - e-mail address: mail@americanmedtech.org
  - Web Site: http://www.americanmedtech.org

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*On the cover:*
Illustration of a flu virus.
Donovanosis is a disease caused by *Klebsiella granulomatis*, the genus of which was changed from *Calymmatobacterium* in 1999 following nucleic acid studies. Although it was first described in 1882, donovanosis has been rare outside of developing countries. However, since a woman contracted it in the United Kingdom in 2017, it has appeared in recent news articles in the United States. The question has become whether this is something people in the U.S. and other industrialized countries need to worry about.

Along with other journals publishing the same story, a *Newsweek* article issued a headline in August of 2018 describing a sexually transmitted disease that can cause genitals to become deformed and rot away. The article reported that a young woman between the ages of 15 and 24 was recently diagnosed with a flesh-eating sexually transmitted disease in Stockport, England. This article shed light on a sexually transmitted disease that has been heard of by very few outside endemic areas, which include India, New Guinea, Central Australia, Southern Africa and the Caribbean. The problem has never been common in the United Kingdom or in the United States.

For those who suffer from it, symptoms usually appear after an average of 50 days from exposure, with a range between 1 and 360 days having been reported. The disease begins with papules on the skin or nodes under the skin with uneven borders and inflammation. The area may then enlarge and become circular, which may then ulcerate and bleed easily. Multiple blisters may be seen, with sores often located in the folds of skin; a foul odor is sometimes present.

In men, the specific location may be the balanopreputial region, as well as the sulcus coronal area and the anus. It has been noted that the disease is more common in uncircumcised males or those without access to good hygiene. Women generally experience wounds in vaginal furcula and the labia minor. In addition, extragenital ulcers may occur in both sexes, such as on the nose, lips, larynx and scalp. Organ dissemination has also been reported. In endemic regions, extragenital cases have been reported in the spleen, intestines, uterus, abdominal cavity and lungs. Patients with these areas affected may experience fever, anemia, night sweats and weight loss.

**History and Individual Cases of Donovanosis**

While donovanosis was first described in the 1880s, the largest reported outbreak was in Dutch South New Guinea between 1922 and 1952, when about 10,000 Marind-anim people contracted the disease. It was reported that sexual practices intensified in this area due to the arrival of outsiders to the area. In addition, promiscuous sexual activity was encouraged by the local religion and semen was used as a healing medicine in the early 1900s. These two activities probably led to the spread of the disease in this region.

In Durban, South Africa, in the late 1980s, an epidemic began that lasted a decade. The primary sexually transmitted infection clinic reported that 3,153 people were affected. During this time period, 11 percent and 16 percent for men and women, respectively, of all ulcers in this region were found to have Donovan bodies. After this epidemic ended,
It is estimated that 75 percent of adults in the United States have a low vitamin D level. Since levels are not well monitored, this could be even higher. Vitamin D deficiency is a growing disorder that can be treated and prevented. This article will explain the importance of maintaining normal vitamin D levels, causes of deficiency, testing blood levels and treatment choices.

Vitamin D is a fat-soluble vitamin, so the body stores excess amounts of it, whereas excess levels of water-soluble vitamins are eliminated. This is important since vitamin D promotes calcium absorption and enables bone growth. Additionally, it helps with cell growth and encoding, and functions as part of the body’s immune system while assisting in neuromuscular function. Additionally, vitamin D reduces inflammation.

**Blood Tests**

Reasons for testing vitamin D blood levels include screening to rule out a deficiency, monitoring the treatment of someone with a deficiency, and overseeing hypercalcemia and renal failure. There are several lab tests used to test and monitor vitamin D levels: serum concentration of 25(OH)D, circulating 1,25 (OH)D, and 25-hydroxy vitamin D2 and D3 assay tests.

The preferred test for initial screening of vitamin D deficiency is the 25-Hydroxy (0080379). It is also the best indicator of vitamin D status and the chosen test to monitor treatment response. The serum concentration of 25(OH)D is a quantitative chemiluminescent immunoassay useful in testing for combined vitamin D2 and D3. The 25-Dihydroxy (0080285) test is also a quantitative chemiluminescent immunoassay useful in evaluating calcium metabolism in individuals with hypercalcemia or renal failure. It is less appropriate for diagnosing vitamin D deficiency, as it indicates the deficiency only when the insufficiency is severe. The 25-Hydroxy-vitamin D2 and D3 serum test (20002348), by Tandem Mass Spectrometry, is an antibody and quantitative liquid chromatography-based test used when there is no response to treatment and looks for underlying causes. This test is not the best practice for initial evaluation of vitamin D deficiency.

Remember, vitamin D promotes calcium absorption and affects the renal system. Therefore, related testing is often performed when a deficiency is noted. These include parathyroid hormone intact with calcium, used to diagnose calcium disorders resulting from parathyroid dysfunction; parathyroid hormone-related peptide (PTHrP) by LC-MS/MS plasma to aid in diagnosis and monitoring hypercalcemia; and renal function panel, used to screen kidney function for renal failure in individuals at risk for vitamin D deficiency.

**Causes**

To prevent vitamin D deficiency, it is important to be aware of the causes. The number one cause of vitamin D deficiency is lack of sun exposure. Due to concerns about skin cancer and the desire to remain youthful-looking, many people have avoided being in the sun. And, when they do venture out, they slather themselves with sunscreen and wear...
The dictionary gives a simple definition of integrity: the quality of being honest and having strong moral principles that you refuse to change. Integrity is moral uprightness. It is a personal choice to hold one’s self to consistent standards. How important is integrity in the workplace? This may not be a subject that you give much thought in your daily life. The intention of this article is to trigger you to think about integrity and what it means to you in the workplace.

Ethically, integrity is regarded as the honesty and truthfulness or accuracy of one’s actions. It stands in opposition to hypocrisy. Judging with the standards of integrity involves regarding internal consistency as a virtue. As such, one may judge that others “have integrity” to the extent that they act according to the values, beliefs and principles they claim to hold.

Honesty is the cornerstone of integrity. Honesty is much more than telling the truth; it is demonstrated in our communication and our actions. We often do not say what we really think in order to keep the peace. Agreeing with something that is against your moral values is not honesty. Being honest in your communication can be done in a professional manner. Saying “With all due respect, I do not agree with your solution and I would be willing to discuss it further,” demonstrates your true feelings when there could be major controversy. When honesty is required in meetings, committees or official capacity, your honest communication often helps confirm your values. Often people “cave” on important issues to avoid conflict and harbor resentment later.

Over the course of an eight- or 12-hour workday, there are numerous ways to demonstrate honesty. How does your employer evaluate your integrity? How do your coworkers see you? We all can demonstrate our integrity daily in our work life and our personal lives.

In the medical field, honesty can make the difference in the outcome of a patient’s treatment. As a laboratory technician, your work is detailed and requires many steps with checks and balances along the way. Did you follow every step? Did you follow protocol every step of the way? As a medical assistant, did you complete the long medication list? Did you record every vital sign correctly? Did you do anything and everything that you promised the patient you would do?

Some simple ways to demonstrate your integrity are:

- Be on time — all the time.
- Always tell the truth. “White lies” are lies and lead to habitual dishonesty. There are better ways to avoid hurting others.
Case Thirty-Three: An Unexpected Cause of a Bloodstream Infection

By Ariela Topper, Martina Beckman, Dr. Eleanor A. Powell, and Dr. Joel E. Mortensen

MALDI-ToF MS (Vitek MS, bioMérieux, Leone, France) identified the organism as Paenibacillus glucanolyticus with 99 percent confidence, but the identification was part of the unclaimed database. Sequencing of the 16S ribosomal RNA gene confirmed the isolate identification as Paenibacillus glucanolyticus, with 99.57 percent sequence homology to a reference sequence.

Once Paenibacillus was identified, the patient’s central line was removed, and antimicrobial therapy was adjusted based on the isolate’s susceptibility (Table 2).

Table 2. Antimicrobial Minimum Inhibitory Concentration by E-test

<table>
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<th>Antimicrobial Agent</th>
<th>Patient MIC (μg/mL)</th>
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<tr>
<td>Ciprofloxin</td>
<td>0.19</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Clindamycin</td>
<td>&gt;256</td>
<td>&lt;0.5</td>
</tr>
<tr>
<td>Penicillin</td>
<td>&gt;32</td>
<td>&lt;0.12</td>
</tr>
<tr>
<td>Meropenem</td>
<td>2</td>
<td>&lt;4</td>
</tr>
<tr>
<td>Vancomycin</td>
<td>1.5</td>
<td>&lt;4</td>
</tr>
<tr>
<td>Gentamycin</td>
<td>1.0</td>
<td>&lt;4</td>
</tr>
</tbody>
</table>

Antimicrobial susceptibility testing was performed using the E-test method (bioMérieux, Leone, France) with blood Mueller Hinton agar at 35°C for 24 hours (Figure 2).

Taxonomy

Until 1993, Paenibacillus spp. were classified under group 3 of the Bacillus family with closest relation to Bacillus subtilis due to similarities in structure and function of flagellar genes. Recently, variation found in 16S...