



► **Ask the Doctor...**
It's Not Love, It's Herpes...2



► **Valentines Day Chocolate Lab**
Don't share chocolate with your pet.
Chocolate contains a chemical...3



► **The Kiss of Death:
Kissing Bugs and Chagas Disease**
Imagine a blood feeding bug that can fly,
grow to an inch in length, and spread
a deadly disease ...3

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Bugbytes

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Welcome to this edition of Bug Bytes. As you can see this edition is dedicated to some of the more lovely topics in public health. Sexually transmitted diseases, Kissing Bugs, and other topics aren't the most comfortable or pleasant to discuss but certainly are very important issues that must be confronted every day by the public health community and primary care providers.

Helping You Promote Public Health

We hope this issue can give you additional tools to assist you in stemming the tide of these very prominent issues in public health.

Since we last wrote, we have moved into our new facility! Please stop by for a visit. We are located in building U-238 near the auto hobby shop and Vet Clinic on NAVSTA Norfolk. We look forward to continuing to provide world class service to assist you in meeting your mission requirements and protecting our operational forces worldwide.

T.L. Wagner
CDR MC USN
OIC NEPMU-2

Fad Diets: Is There A More Successful Approach?

HMI William Dunn

With the beginning of another new year, many are looking to lose weight. How they decide to lose that weight can be vital to keeping those pounds off. Avoiding the pitfalls of fad diets is important to keep from bouncing back, or even gaining more weight when the diets over. Fad diets can be unhealthy and even dangerous, so it's important to know what to look for and know what you may be getting yourself into.

Fad diets promise a large or fast weight loss. Fad diets tend to promote or ban certain foods or food groups and push a one size fits all approach. They also promise quick or dramatic results, encourage the use of pills, potions or supplements and base their claims on few studies. Many fad diets say they work without exercising. Exercise is an important tool to losing and maintaining weight loss. An increase in any daily activities that fit your lifestyle will help you to burn more calories.



"Nothing astonishes men so much as common sense and plain dealing." Ralph Waldo Emerson

A more successful approach to long-term weight loss includes reducing fat intake, eating breakfast every day, weighing yourself every week, limiting television time and exercising for about an hour each day. The best diet is not a diet at all, but a way of life that lets you "eat to live," as you enjoy healthy food, exercise, and optimal health.

Did you know?

- 80% of people who have a sexually transmitted disease experience no noticeable symptoms.

- Untreated gonorrhea and chlamydia can result in pelvic inflammatory disease in women, a condition that can cause infertility.

- Ants produce a simple acid called Formic Acid. It is the chemical that causes the stinging pain from an ant bite and is their primary digestion fluid. Formic acid can be used as a germicide, miticide, and feed grain preservative.

- Dark chocolate covered pomegranates serve up a double dose of antioxidants that have the ability to fight harmful free radicals.

- Antioxidants are essential to the prevention of cellular damage- the common pathway for cancer, aging, and a variety of diseases.

- Chocolate contains chemicals thought to effect the stimulant phenylethylamine, and the neurotransmitter serotonin, which are both "feel good" chemicals. They occur naturally in our bodies and are released by our brains when we are feeling happy, loving or passionate.

Doctor's Orders: It's Not Love, It's Herpes...

Mark Humphrey, MD MPH



Valentine's Day is all about love and romance, but without care that romantic interlude can lead to itching, burning and pain in the days to weeks that follow. Genital herpes is one of a number of sexually transmitted illnesses. It is caused by the herpes simplex viruses type 1 (HSV-1) or type 2 (HSV-2). Most individuals have no or only minimal symptoms from HSV-1 or HSV-2 infection. When signs do occur, they typically appear as one or more blisters on or around the genitals or rectum. The blisters break, leaving tender ulcers (sores) that may take two to four weeks to heal. In the U.S., 16.2%, or about 1 out of 6, people 14 to 49 years of age have genital HSV-2 infection.

Herpes virus can be found in and transmitted from the sores that the viruses cause. Transmission can also occur from an infected partner who does not have a visible sore and may not know that he or she is infected. While HSV-1 primarily affects the mouth by causing cold sores, it can be passed to the genitals during oral intercourse.

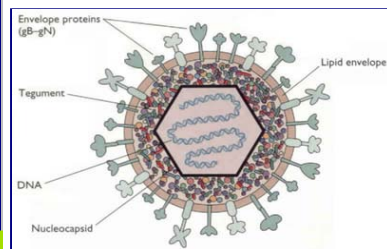
For those that do become symptomatic, after the first occurrence or development of sores they can expect to have approximately four or five symptomatic recurrences within a year. Over time these recurrences usually decrease in frequency. In addition, genital HSV can lead to potentially fatal infections in babies. It is important that women avoid contracting herpes during pregnancy because a newly acquired infection during late pregnancy poses a greater risk of transmission to the baby.

The surest way to avoid transmission of sexually transmitted diseases, including genital herpes, is to abstain from sexual contact, or to be in a long-term mutually monogamous relationship with a partner who has been tested and is known to be uninfected. Correct and consistent use of latex condoms can reduce the risk of genital herpes. Unfortunately, condoms do not completely protect against transmission because they often do not fully cover all infected areas. Persons with herpes should abstain from sexual activity with uninfected partners when lesions or other symptoms of herpes are present.

Reference:

Genital Herpes - CDC Fact Sheet: <http://www.cdc.gov/std/herpes/stdfact-herpes.htm>

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HSV Structure



Cold Sores



HSV Conjunctivitis

Courses available at NEPMU2:
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For further info contact Jeff Bolden:
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EducationandTraining@med.navy.mil](mailto:NEPMU2Norfolk-EducationandTraining@med.navy.mil))

STD Prevention Measures for Travelers

- Abstinence or mutual monogamy is the most reliable way to avoid acquisition and transmission of STDs.
- For persons whose sexual behaviors place them at risk for other STDs, correct and consistent use of the male latex condom can reduce the risk of HIV infection and some STDs, including chlamydia, gonorrhea, and trichomoniasis, and might protect women from developing pelvic inflammatory disease. Only water-based lubricants (e.g., K-Y Jelly or glycerine) should be used with latex condoms, because oil-based lubricants (e.g., petroleum jelly, mineral oil, or massage oils) can weaken latex condoms.
- Pre-exposure vaccination against hepatitis A and B is recommended, as these infections can be sexually transmissible.
- A quadravalent vaccine against human papillomavirus (HPV) is available for females 9-26 years of age.

Reference:

CDC's Traveler's Health: <http://wwwnc.cdc.gov/travel/yellowbook/2010/chapter-5/std.aspx>

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Delicious chocolate and an incredibly cute puppy don't mix well. This puppy is sad because like all dogs and cats, she shouldn't have chocolate.

Chocolate contains a chemical called theobromine which dogs and cats don't digest well. Theobromine poisoning symptoms include nausea, vomiting, diarrhea, and increased urination.

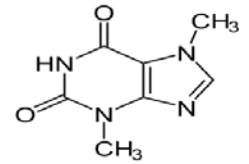


Fig 1 – Theobromine Structure

These symptoms can progress to cardiac arrhythmias, epileptic seizures, internal bleeding, heart attacks, and eventually death. Contact your veterinarian if you suspect your pet has eaten chocolate.

***The Kiss of Death:
 Kissing Bugs and Chagas Disease***

LTJG Matthew Montgomery

When it comes to biting hemipterans (true bugs), bed bugs seem to have the monopoly on our collective imaginations and terror. However, try to imagine a blood feeding bug that can fly, grow to an inch in length, and spread a deadly disease. This insect does in fact exist and is found throughout South and Central America and occasionally as far north as Texas and Florida. These bugs are commonly referred to as kissing bugs (Family Reduviidae), due to their predilection for biting soft tissues such as the lips or eyelids.

Kissing bugs are the vector of the protozoa *Trypanosoma cruzi*, the causative agent of Chagas disease. Chagas is spread by a kissing bug taking blood from an infected host, either human or animal, after which the protozoa will multiply within the insect's midgut. Once the parasite has multiplied it then moves to the hindgut where it will be passed with the kissing bug's feces. Kissing bugs typically defecate on their hosts immediately after feeding, so if the feces come into contact with the bite wound or a mucosal membrane the host can become infected by *T. cruzi*.

Chagas disease has both an acute and chronic phase. The acute phase occurs immediately after infection, while many are asymptomatic during this stage others may suffer from fever or Romaña's sign, which is a localized swelling of the eye. With chronic Chagas many patients will remain asymptomatic for their entire lives; approximately 20-30%, however, will develop life threatening conditions including heart rhythm abnormalities, a dilated heart which is inefficient at pumping blood, gastric dilation, and sensory impairment.

While there is no vaccine for Chagas disease, some antiparasitic drugs successfully kill all *T. cruzi* parasites in the majority of patients in the acute stage. The most effective means of preventing Chagas, however, is by eliminating contact with its vector. Simple steps, such as sleeping under a permethrin treated mosquito net, treating walls with residual insecticides, and keeping domestic animals far away from sleeping quarters will have the most impact. It is also important to get rid of kissing bug harborages by removing clutter inside households, replacing thatched roofs, and painting over or sealing mud brick or wooden walls.



Photographer Harold Baquet

***T. sanguisuga* male**

Triatoma sanguisuga is a vector of Chagas disease, wild specimens have tested positive for *T. cruzi* in Florida.



European, Asian, and African countries are affected through the travel of *T. cruzi* in blood transfusions and organ transplants. The transmission of *T. cruzi* is no longer limited to Latin America, it has become a worldwide problem.
 Source: World Health Organization

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