

A Simple Guidesheet about West Nile Virus

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Introduction

West Nile Virus is a very serious and potentially life-threatening illness for anyone, and it can be confused for other less life-threatening diseases. If one has contracted it, care and treatment is essential to avoid complications that can include long-term debilitation and death.

The references provided here will provide more in-depth information, far more than is the intention of this short document. Also, here you will not find anything about rates and statistics of occurrence, in the USA or elsewhere – for that info, there are the references given here.

This document does not go into all the things you can and should do to minimize contact and bites from mosquitoes, such as staying indoors at peak times, wearing clothes and repellants, and doing everything you can to reduce the local mosquito population by removing the breeding “attractors” (e.g., stagnant and untreated water) where that is possible for you to do. For all that kind of information – use the references here, go google and read and call your town or county offices, etc.

Furthermore, this is not a definitive report but only a basic guidesheet to help people who may not want to read through some fairly long and often complicated documents.

Remember, always, that the best advice and care is going to be from some qualified professional healthcare-giver who can directly speak with you and actually see you. There is no substitute for going to a physician or at least a clinic with a qualified physician’s assistant and/or nursing staff. Do not rely upon this, or documents from CDC, NIH, WHO, or any other source, because documents cannot provide proper diagnostics or therapeutics!

The basic reference materials that I am suggesting for further reading are :

[1] CDC – West Nile Virus home page - <http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>

[2] Mayo Clinic page on West Nile Virus - <http://www.mayoclinic.com/health/west-nile-virus/DS00438>

[3] CDC West Nile Virus Info and Guidance for Clinicians - <http://www.cdc.gov/ncidod/dvbid/westnile/clinicians/>

[4] MedLine Plus - <http://www.nlm.nih.gov/medlineplus/westnilevirus.html>

[5] PubMed Health - <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0004457/>

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The Basics

West Nile Virus (WNV) is transmitted to humans and other mammals by a bite of a mosquito that is itself infected with the virus. That's enough. For the basic infection cycle, see Figure 1 in the Appendix below, and read further from the references or on your own.

Two key points about transmission and infection:

(1)

While it is remotely possible for a human to get an infection from a bite by a bird that is infected, this is highly unlikely. Mammals (like dogs, cats, horses) that are infected are considered to be “dead-end carriers” – they will not even be likely to pass the virus on to mosquitoes, much less other animals. So we humans have to worry about one source – Mosquitoes.

However, “In a very small number of cases, WNV also has been spread through blood transfusions, organ transplants, breastfeeding and even during pregnancy from mother to baby.” [1] So, if someone has WNV, these are factors to consider and mention to your physician or other healthcare provider!

Also, avoid bare-hand or other body contact with dead animals, especially birds. Well, this should be fairly obvious common sense, not only to avoid WNV!

The good news – no transmission from human-to-human by touching, kissing, or “etc.”

(2)

If you notice yourself being bitten, or find the sign of a bite (e.g., in the morning) can you tell right away whether you have WNV or not? NO.

You should obviously not assume that you will be infected and worry needlessly, BUT you need to consider, under the present (August 2012) circumstances (and thus – keep reading the updates, on the web, on the TV news, etc.), that there is a chance that the mosquito which bit you had been WNV-infected.

That means: YOU NEED TO BE WATCHFUL. You cannot “brush it off” and forget it.

The risks and likelihood of being infected and getting sick:

If WNV is in your system, then you have it, but there is no simple and fast rule about whether or not you will have any symptoms nor about how sick you will become. Thus, you need to assume all possibilities to be on the safe side, to be prepared.

The CDC puts things very clearly:

- **Serious Symptoms in a Few People.** About one in 150 people infected with WNV will develop severe illness. The severe symptoms can include high fever, headache, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, vision loss, numbness and paralysis. These symptoms may last several weeks, and neurological effects may be permanent.

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- **Milder Symptoms in Some People.** Up to 20 percent of the people who become infected have symptoms such as fever, headache, and body aches, nausea, vomiting, and sometimes swollen lymph glands or a skin rash on the chest, stomach and back. Symptoms can last for as short as a few days, though even healthy people have become sick for several weeks.
- **No Symptoms in Most People.** Approximately 80 percent of people (about 4 out of 5) who are infected with WNV will not show any symptoms at all. [1]

In general, to be on the safe side, you should consider these three general risk factors:

- Conditions that weaken the immune system, such as [HIV](#), organ transplants, and recent [chemotherapy](#)
- Older or very young age
- Pregnancy [4]

Time before you have symptoms and are sick:

It really varies. From 3 days to even more than 14 days.

Going More In Depth

Watchfulness and Attention to Symptoms:

If you develop symptoms that fit the above, you really need to be in touch with your medical provider and keep a close watch on yourself or whomever is sick, because you do not want things to progress untreated, to the point where the severe illness can be a killer or, even if not fatal, the cause of significant neurological damage including those described above.

Pay Special Attention to symptoms that are like: severe headache, disorientation or sudden weakness, for which there is no other explanation. (And anyhow, these symptoms deserve special care even if not WNV.)

See Figure 2 In the Appendix for more info on the age-related risk statistics for developing WNV illness.

Straight from the National Institutes of Health, this list of symptoms is pretty basic, clear and thorough:

Mild disease, generally called West Nile fever, may cause some or all of the following symptoms:

- Abdominal pain
- Diarrhea
- Fever
- Headache
- Lack of appetite
- [Muscle aches](#)

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- Nausea
- Rash [this seems to be the case in approx. 50% of cases]
- Sore throat
- Swollen lymph nodes
- Vomiting

These symptoms usually last for 3 - 6 days.

More severe forms of disease, which can be life threatening, may be called West Nile encephalitis or West Nile meningitis, depending on what part of the body is affected. The following symptoms can occur, and need prompt attention:

- Confusion or change in ability to think clearly
- Loss of consciousness or coma
- Muscle weakness
- Stiff neck
- Weakness of one arm or leg [5]

Treatment:

There is no specific medicine for WNV. Being a virus, not a bacteria, there is no antibiotic medicine that works on WNV. You need to watch your symptoms and how sick you feel, and pay attention to the “extenuating circumstances” of Age and also general medical condition and overall constitution of one’s health.

Because of the fact that there could be hidden progression of the WNV into the central nervous system (CNS) and into the brain, this is how WNV can lead to meningitis or encephalitis, very serious and life-threatening to anyone thus afflicted. You may not notice things until it is too late, so you need to be in contact with your healthcare provider if any of the symptoms listed above start to turn serious. Simply put - if it seems to be really bothering you, then you need to GO to a doctor, clinic, or hospital.

If WNV gets into the central nervous system and the brain, that is where things can get very bad, very fast, including Death, not to mention also permanent neurological dysfunction and disability as a result of something like meningitis or encephalitis.

References

[1]

CDC – West Nile Virus home page - <http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>

[2]

Mayo Clinic page on West Nile Virus - <http://www.mayoclinic.com/health/west-nile-virus/DS00438>

[3]

CDC West Nile Virus Info and Guidance for Clinicians - <http://www.cdc.gov/ncidod/dvbid/westnile/clinicians/>

[4]

MedLine Plus - <http://www.nlm.nih.gov/medlineplus/westnilevirus.html> - this site has a lot of very good additional links, including on matters similar to but different from WNV.

[5]

PubMed Health - <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0004457/>

APPENDIX

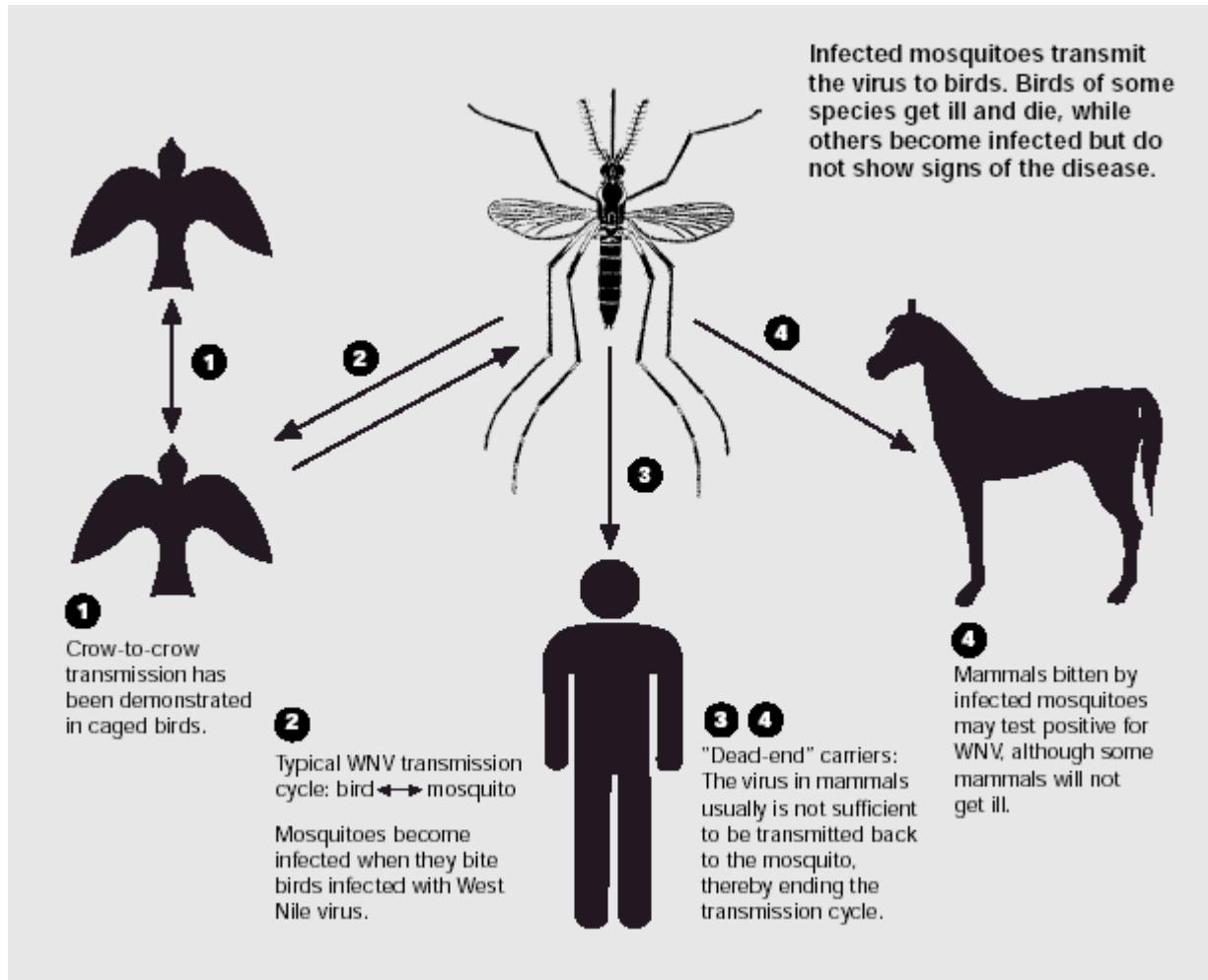


Figure 1 – West Nile Virus Cycle
 [source: <http://ph.lacounty.gov/acd/vectorwestnile.htm>]

Table. Median age (in years) of development of West Nile illness following infection

Year*	Fever	Meningitis	Encephalitis (with or without associated meningitis)	Death**
2002	49	46	64	78
2003	45	46	62	80

*For data from 2004, see [Statistics, Surveillance, and Control](#).
 **Most deaths were among encephalitis patients.

Figure 2 – Age-related Statistics for Development of WNV Illness including Severe Neurological Pathology [source: ref. [3]]

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