

Q-FEVER

**WHAT IS IT AND HOW DO YOU PREVENT IT?
BY: LAUREN NEWMAN**

Q-FEVER IN A HISTORICAL CONTEXT

- Term first proposed in 1937 by Edward Holbrook Derrick an Aussie scientist when describing workers with a fever/febrile illnesses. Was first identified as a human disease in Australia in 1935 and the 1940's in the United States.
- It was a “nationally notifiable” disease in 1999 by the Center of Disease control. █



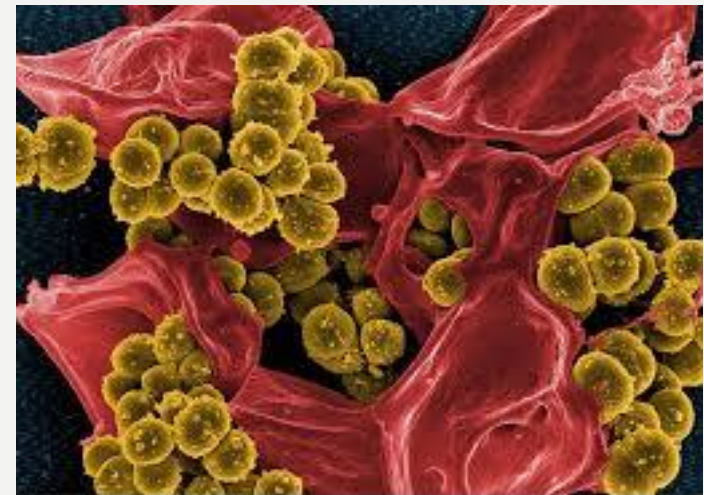
Pictured above: Edward Holbrook Derrick

WHAT IS Q-FEVER?

Fun Fact:
The “Q” stands for Query

- Q-Fever is a zoonotic (can be transferred from human → animal **AND** animal → human) disease,
- Caused by the bacterium, *Coxiella burnetii*. The disease has been found widespread throughout the world, and has enormous repercussions if an outbreak occurs.

*Pictured Right:
Coxiella
burnetii*



WHO DOES Q-FEVER AFFECT?

Fun Fact:
An animal carrying or currently infected may not present any symptoms.

Animals:

Primarily affects:

- ❖ Sheep
- ❖ Goats
- ❖ Cattle

Has been seen to have reproduction implications in:

- ❖ Cats
- ❖ Dogs
- ❖ Horses.

Humans:

- ❖ Most at risk are pregnant women.

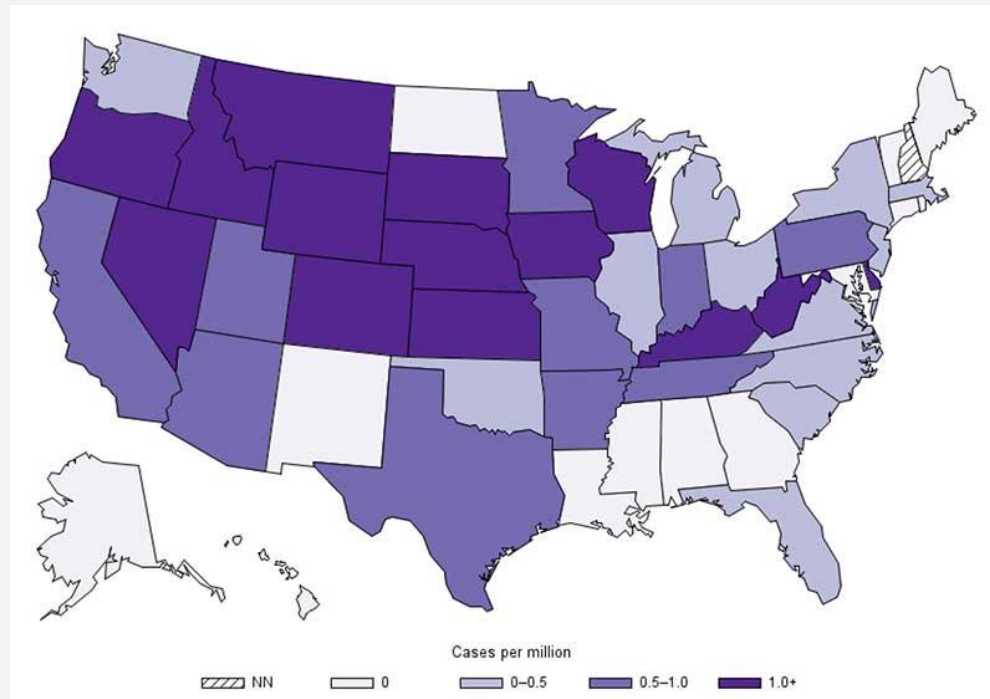


<https://www.thealternativedaily.com/goats-need-help-look-humans/>



<https://timesofindia.indiatimes.com>

WHERE IN THE U.S IS Q-FEVER MOST PREVALENT?



<https://www.cdc.gov/qfever/stats/index.html>

- Cases per million in the U.S. in 2017.
- White is no cases per million goats all the way to darker purple which is 1 case per million.
- More than one third of cases (38%) are reported from three states (California, Texas, and Iowa).

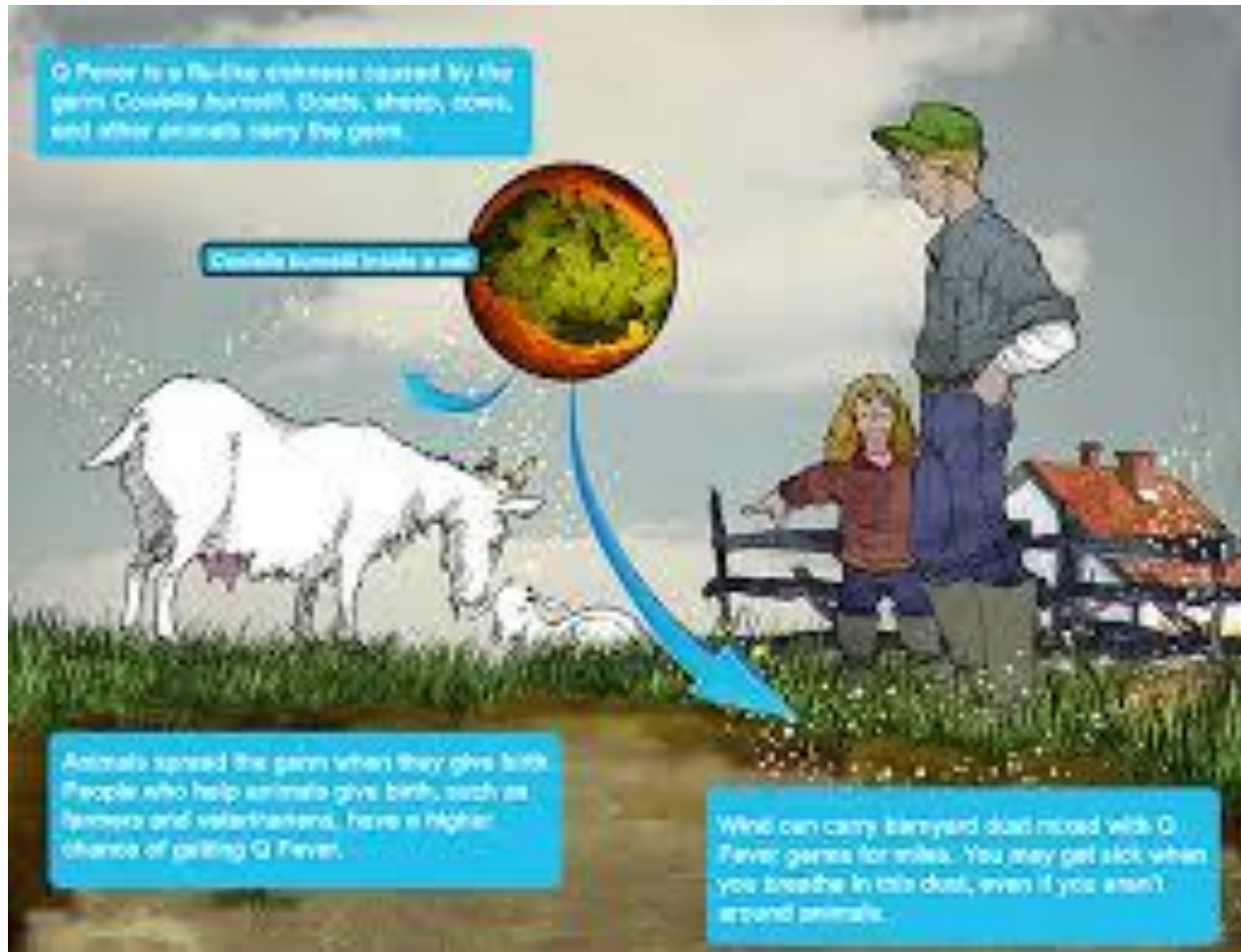
TRANSMISSION (ANIMAL TO ANIMAL)

DIRECT CONTACT

- Animals can be infected with Q-Fever by coming in contact (both indirect and direct) with other infected or carrier animals.
- Direct or “face to face” contact can occur by a few different ways.
 1. **Contact with saliva and other bodily fluids via directly from another animal. (i.e rubbing noses, mouths, sneezing etc.)**
 2. **Semen**
 3. **Nursing or consumption of milk from an infected mother**



<https://www.betterhensandgardens.com/getting-dairy-goats-dam-or-bottle-raised/>



<https://www.cdc.gov/qfever/transmission/index.html>

TRANSMISSION (ANIMAL TO ANIMAL) **INDIRECT CONTACT**

1. Indirect or non-intentional contact can occur without even being near other infected animals.
2. Inhaling bacteria from contaminated dust.
3. Contact with vectors such as flies and ticks.
4. Consuming or contact with urine, feces on grass, dirt and other living spaces of infected animals.
5. Human's petting and in contact with other herds.

TRANSMISSION (HUMANS)

- Humans can get infected with Q-Fever as well as animals. Although uncommon it can pose life threatening conditions if not taking care of.
 1. Inhalation of infected dust
 2. Inhalation of air from contaminated reproductive parts such as placenta, and fluids from an animal who has recently given birth.
 3. Consumption of raw, unpasteurized milk
 4. Tick bites and other biting vectors.



SYMPTOMS

Animals:

- 60% don't have signs of disease.
- Abortions
- Common acute symptoms: fever, headaches, muscle pain.
- Uncommon acute symptoms: pneumonia, hepatitis, meningitis.
- Rare symptoms: heart and liver disease, chronic fatigue syndrome

(University of Wisconsin)

Humans:

- Fever, night sweats
- Headaches
- Fatigue
- Serious cases may include pneumonia and hepatitis



<https://www.mesotheliomadiagnosis.com/mesothelioma/>

TREATMENT AND PREVENTION

- For **animals** contact your **Veterinarian** if suspected.
- For **humans** contact your **Physician** if suspected.
- Culling and euthanizing infected animals is recommended to prevent a further outbreak.
- Limit exposure of animals who are due to give birth.
- Wearing safety equipment if around infected animals or as a precaution.
- Humans can be treated by antibiotics

REFERENCES

- <https://www.science.org.au/fellowship/fellows/biographical-memoirs/edward-holbrook-derrick-1898-1976>
- <http://www.austinpug.org/q-fever-causes-symptoms-diagnosis-treatment-and-prevention/>
- <http://extension.colostate.edu/topic-areas/agriculture/q-fever-8-022/>
- <https://www.uhs.wisc.edu/wp-content/uploads/Q-Fever-Guidance-030817.pdf>
- http://www.cfsph.iastate.edu/Factsheets/pdfs/q_fever.pdf
- <https://www.cdc.gov/qfever/index.html>