Zombie Outbreak Survival Guide

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Class C Integrated Science

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Introduction

In this book, we are going to guide you on a path of survival during the zombie apocalypse. This guideline included necessary information to survive for examples; what is zombie apocalypse, what you need to survive, and how to treat your own injury. This book provide you the knowledge to purify the water and the food that you should eat during the zombies apocalypse. And we also provide you the necessary material and weapon you need in order to survive.

Causes of zombie apocalypse

There are many causes of zombie apocalypse within the fiction media, but some of these are the most likely cause of zombie apocalypse

Possible causes of zombie apocalypse

1. Experiment gone wrong - Scientists accidentally invented a form of pathogen which corrupted the human body into zombie.

Problem : zombie caused by an experiment.
Solution : survive or find the leading source of
zombie outbreak and find the cure to fight against
zombie.

2. Pathogens Mutation - a form of pathogen mutated and turn people into zombie.

Problem : the pathogen could be easily spread and adapt to the environment Solution : Study about the mutation if it has the similar pattern to known previous disease, and if has a cure you should try the cure.

3. Unknown causes - unexplainable or

mysterious causes led zombie to the world.

Problem : varies

Solution : hope and pray because there is nothing you can do. Enjoy all the time you still have!

Types of zombies

To defeat your enemy, you must know them first. Zombie could be specified to 5 basic group: Crawler, shambler, walker, runner, and thriller. They could be more depends on the cause of zombie. So, be careful when they are around.



1. Crawler

- This kind of zombies is common, but they are much harmful as walkers, Runners and Thrillers. This kind of zombies have a very slow movement, because their legs got cut. If you found this type of zombies, be silent and try to avoid them, kill them if it's necessary.

2. Shambler

- This kind of zombies have a similar anatomy with walkers, but they are slower. If you found this type of zombie, try to use knife and be silent.

3. Walkers

- This is a very common type of zombies, this type of zombie is a original type, which have a high population. If you see them kill them with the weapons that does not have a loud noise. Or you can used gun if necessary

4. Runner

- This type of zombie is common and harmful. They're gonna run attack you if you make a loud noise or have their attention. And if a runner run is attacking you. The others will run either. So, you have to run Or killed them with guns (if you have)

5. Thriller

- This type of zombies is very harmful. They are obsessed with blood and human's brain. They run very faster than normal human. And if you are in high place, they can go on top one another to make them higher. So avoid this type of zombies, and you aren't gonna killed them all. So, if you got their attention. RUN!!
- This is the recommended weapon, but tried to avoid chainsaw, shotgun and gatling gun, because they have a very loud noise and it will risk your life. The best weapon in this apocalypse is knife, bat, axe and crossbow (if you can find it).



Weakness

- Zombie weak points: brain, neck, and spine
- Zombie methods of attack: biting, grabbing, slashing
- What part of zombie to avoid: head, hand, and mouth

The lifespan of zombies.

On average, it can take about a month for a body to decay, though a zombie's limbs would become essentially useless prior to that limit. Once the connective tissue deteriorates, the body fall apart and will be unable to move.

It is also likely that after the first week, the terrain, elements, and wildlife will begin to take a serious toll on the necrotic flesh of a zombie. Because movement over any surface creates friction, any exposed flesh that rubs against a surface (like asphalt or stone) would arguably deteriorate faster than if it had remained immobile.

- The first stage (1 month) Rare

The first stage of zombies they can run fast, which the first stage most of them are runner and thriller.



- The second stage

The second stage, the zombies will be louder, slower and clumsy, which this is common in shambler and walker. They are much slower in one months.



- The third stage

The third stage, the zombies will be very slow, which common in Shambler type.

- The last stage (Rare)

The last stage, the zombies will already decayed and have very weak arms and legs. They are much slower. Which this common is Crawler.





Zombie's Anatomy

Zombie have the similar anatomy to a normal person with a few exception



1. Zombies are undead

- They are not considered a living being because they are walking, rotting body

2. Their blood is toxic

- Zombie's blood is dangerous, if they entered your body system, they may transform you into a zombie

3. They are hungry for human's flesh.

- The most popular belief about zombie is that zombie loves human brain. They are always hungry for living creatures, but with a few exceptions.

4. Zombies are corpses

- They are walking corpse, which mean they are decaying. The rate of decay could depend on the surrounding environment.

5. They are not the smartest being

- They are as smart as a worm. They can not compute what is happening around them. They are not reactive to their surroundings. This make them an easy target for traps. In certain situation, they might ignore their prey within their range.

6. Their jaws are super strong

- They use biting as a way to spread their germs. They are equipped with strong teeth and jaw to hunt their prey.

Infection

Biological weapon - any of a number of disease-producing agents-such as bacteria, viruses, rickettsiae, fungi, toxins, or other biological agents-that may be utilized as weapons against humans, animals, or plants.

Type of pathogens

1) **Viruses -** Non-living particles composed of Nucleic acid and protein coat. Require a living host to survive, invade cells to use enzymes and organelle to reproduce more viruses and usually killing host cell in the process.

Example: Ebola, Polio, HIV, Influenza

- 2) Bacteria Alive, prokaryotic single-celled Organism which are able to live in extreme environment: Without oxygen, extreme temperature. Example: E. coli, Bubonic plague, Pneumonia, Tuberculosis
- 3) Fungus Eukaryotic, Heterotroph (Can't produce food by itself). Reproduce both sexually and asexually by producing spores. In favorable environment, the speed of asexual reproduction increases. Fungi is able to attack our food source and the mold spores can become airborne. (They are very unexplored in the present) Example: Cordyceps, Aspergillus, Coccidioides immitis
- 4) Parasites Feeds on a host, can either live in or on the host's body. Infectious disease may be caused by animals which take up residence in intestine, bloodstream or tissue. Example: T. gondii, Flatworm, Lice, pinworms.
- 5) **Protists** Eukaryotic, many protists live as parasites and cause diseases. Some are autotroph and some are heterotroph. Animal-like protists can cause danger in human. They are able to live and multiply in blood or tissue of humans. Example: Trypanosoma brucei, Paramecium, Plasmodium
- 6) Prion Is a type of protein that can trigger protein in the brain to fold abnormally which can enter the brain through infection or can be made from mutations in the gene that responsible for protein encoding. They appeared to lack of nucleic acid, they can cause hereditary, infectious with

sporadic kind of disease (Can transmitted and affect another organism.) Example: Gerstmann-Sträussler-Scheinker disease, fatal familial insomnia

Type of Pathogen transmission

- Direct transfer of agent directly into body, requires physical contact between hosts.
- Indirect contact of body fluids or tissue of infected, the pathogen is carried by vector, vehicles or air.
 - **Vector** Is a living organism such as insect that carries a disease from one host to another
 - Vehicle-borne transmission Non-living object that carries a disease. This include surgical instruments, clothing, medical supplies, water, blood, serum, plasma, Foodborne

• Airborne transmission

Pathogen are spread in the air and enter into body through respiratory tract. This may be droplet or droplet nuclei or an infected object but is suspended in the air for longer period of time. It can be distributed by many processes, such as heating or cooling.

| Type of Vector | Disease | Pathogen |
|----------------|---|--|
| Mosquitoes | Dengue Fever | RNA virus of the genus Flavivirus |
| | Yellow Fever | RNA virus of the genus Flavivirus |
| | Chikungunya | RNA virus of the genus Alphavirus |
| | Malaria | Parasitic protozoan Plasmodium sp. |
| | West Nile Fever | RNA virus of genus Flavivirus |
| | Rift Valley Fever | RNA virus of the genus Phlebovirus |
| | Japanese encephalitis | RNA virus of family Flaviviridae |
| Ticks | Lyme disease | Bacteria Borrelia sp. |
| | Spotted fever | Bacteria Ricksettsia sp. |
| | Q fever | Bacteria Coxiella burnetii |
| Sandflies | Leishmaniasis | Protozoan parasite Leishmania sp. |
| | Phelebotomus fever | RNA virus of the Bunyaviridae family |
| Tsetse flies | Trypanosomal diseases | Protozoan parasite, <i>Trypanosoma</i> brucei gambiense and <i>T. b.</i> rhodesiense |
| Fleas | Plague—the Black Death (transmitted to rats to humans) | Bacteria Yersinia pertis |
| Black flies | River blindness | Parasitic worm Onchocerca volvulus |
| Aquatic snails | Schistosomiasis | Helminth parasite Schistosoma sp. |

- 3) Droplet Mostly consists of water with various inclusion. It is naturally produced by human. Droplets are likely to vary in both size and content. Droplets >5 µm tend to remain trapped in the upper respiratory tract (oropharynx - nose and throat areas)
- 4) Droplet nuclei The term droplet nuclei refer to droplet with ≤5 µm that have the potential to be inhaled into the lower respiratory tract (the bronchi and alveoli in the lungs).

*If you got bitten where it is far from the nervous system then you will die from the blood loss, but if you get bite in the upper area, then you will turn into zombie.

Avoiding non-zombie infection :

1. Avoid living and breathing in the unhygienic and contiguous areas and objects.

Curing zombie infection : Chance of curing zombie infection is very low. It took a few minutes after being infected by zombie to turn you into a zombie.

Ways not to become a zombie after an infection

- amputate the infected area, or the body parts exposed to the infection to stop the infection to spread through your body.

- exposed your body to the cure to fight against the zombie infection.

- to prevent yourself from becoming a zombie and harms other, find a way to keep yourself from other.

Survival Guide

What do you need?



1.Shelter



3. Water (1 gallon lasts for 3 days)



 Fire (for heat and bugs prevention)



4. Food (lasts for 2-3 weeks)

If you're at the assembly point

- Call the police
- Listen to the radio
- Find assembly point map where to get some important equipment, where to evacuate.
- Find Facilities Electricity, Water, Crop and Groceries.

If you find a safe place to stay, protect and fortified the area, lock the door, close the window, etc..

If you're outside.

- Assembly point, for example; hospital, school and police station, abandon house, gas station, fire station. Avoid populated area, like shopping mall.
- Before get in the building, check window and places around school(for safety).
- Then continued with the assembly point step and locked the door.

Survival Pack

- Duct Tape
- Multi-tool
- Dehydrated/Non perishable Food.
- Water
- Lighter
- Med Kits
- Flashlight
- Radio
- Local map
- Binoculars

Clothing

- Thick jacket (Leather)
- Long Jean or comfortable trousers
- Thick boots or running shoes
- Hat or cap
- Rucksack or backpack
- Socks
- Raincoat
- Motorcycle helmet
- Goggles

Carry around a med-kit: In order to treat wounds, injuries, Cure infection.

First-aid kit

- Alcohol
- Betadine
- Zambug
- Bandage
- General medicine (ex. Paracetamol)
- Cotton pads
- Plaster
- Plastic bag
- Insect repellant

Transportation: Use silent vehicles such as

bicycles, horses, etc..

Walk or run if necessary.

Ignore loud vehicles such as: helicopter, boat, car, train, motorcycle, airplane, and many more.

<u>Water</u>

1. Purifying water

Materials

- Bottle (with the lid)
- Container (keep water after filtration)
- Tissue paper or a piece of cloth
- Activated charcoal
- Sand
- Pebbles
- Rocks

Method

- 1.Cut the bottom of the bottle and make a 4-5 holes on the lid
- 2.Place the tissue paper on the top of the bottle and close the lid (Be careful not to tear the paper!)
- 3.Clean the sand, pebbles, and rocks with clean water
- 4. Put activated charcoal, sand, pebbles, and rocks into the bottle, respectively and place the bottle on the container



5. Pour the water into the bottle and wait for the water to come out into the container

- 6. (Optional) Boil the filtered water to sanitize it.
- 2. Desalinating water (salt water)
 - a. Thermal desalination
 - i. Similar to the water cycle
 - ii. Methods
 - 1.Salt water is
 heated (Water will
 evaporate leaving
 the salt behind)
 - 2.Evaporated steam is cooled down and condensed into pure water



b. Membrane desalination

i. Semipermeable membrane (a thin sheet of material with tiny holes that let water but not salt pass through) is used in a process called Reverse Osmosis

ii. Methods

- 1.Pour salt water into a tank with the membrane in the middle
- 2.Pressure is applied to the salt water side, pushing salt water to the other side through the membrane. Since the membrane lets only liquid passes through, salt is left behind.



Food

Calories: 2000-2500 Kcal for women, 2500-3000 Kcal for men

Nutrition per day

- Protein

You need to get 10 to 35 percent of your calories from protein. This means you'll need roughly 50 to 145 grams of protein each day.

- Carbohydrates

Should contain between 210 and 290 grams of carbohydrates each day, which is equal to 45 to 65 percent of your daily calories.

- Fat

should contain between 210 and 290 grams of carbohydrates each day, which is equal to 45 to 65 percent of your daily calories.

- Vitamins

organic compound and an essential micronutrient that the body needs in small amounts. The least amount you should have in your diet, as being 5,000 IU of vitamin A, 60 mg of vitamin C, 400 IU of vitamin D, 30

- Minerals

The FDA recommends you get at least 1,000 mg of calcium, 3,000 mg of potassium, 3,400 mg of

chloride, 18 mg of iron, 400 mg of magnesium, 1,000 mg of phosphorus and 150 mg of iodine. You should also get 70 mcg of selenium, 15 mg of zinc, 120 mg of chromium, 75 mcg of molybdenum, 2 mg of manganese and 2 mg of copper.

Recommend food

- Meat -Jerky, Ground beef, Tuna.
- Carbohydrates -Bagel, Bread.
- Vegetable



Spinach

- vitamin A
- vitamin K
- Antioxidants



Red Cabbage - Fibre

- Vitamin C



• Fruit

Grapes

- Reduce inflammation
- Lower your risk of disease



Banana

- High potassium
- High Carbohydrate
- Improve blood sugar
- control and digestive health

Canned food example:



You should choose canned food that have high carbohydrate, high protein, more than or equal standard of vitamin and mineral per day. Eat less sodium and eat above the calories standard.

First Aid

- Fever

1.Look For
 - pulse rate

- respiration (wheezing, high-pitch noise, etc. when the patient is breathing)

- check temp. and moisture (by using the back of your hand)

- color of the skin, eyes, nails, lips, etc.2. What to do

- keep the patient as warm as you can for some time

- ask about their last meal and event that can cause patient illness.

- try to make the patient sleep, eat, and drink a lot

- Broken Bone

 Choose a splint long enough to immobilize joints above and below the injury
 Apply padding between splint and the injury.
 Bandage splint in place by using a roller bandage, or other types of bandage.
 Always check circulation before and after splinting. (If pulse is absent then the splinting is too tight, so loose the splinting until the pulse returns or look for the color of tissue in the fingernails and toenails).

5. If the upper arm is fracture, place arm in sling after splinting

- <u>Lacerations</u>

1. Know 3 types of wound

- Arterial bleeding (bright red blood spurts from a wound in a rhythm with the heartbeat)

- **Venous bleeding** (dark red blood flows from the wound without rhythmic spurts)

- **Capillary bleeding** (blood slowly oozes from the wound)

Sustain direct pressure on the wound for 15 mins. Wrapped the bandage towards the heart.
 Check pressure

- fingernails / fingertips push or squeeze on the tip and if the color on the fingernails change from white to pink in a few seconds then you get the right pressure

- <u>Pulled Muscle</u>

1. Rest the injured part until it becomes less painful.

 Wrap an ice pack or cold compress with a towel and place over the injured parts for no more than 20 mins per time (4-8 times per day)
 Support the injured part with elastic compression for at least 2 days
 Raise the injured part above heart level to decrease swelling.

CPR

- 1.Make sure that environment you're in a safe
 place(no zombies)
- 2. If the environment around is safe then approached the patient from toes to the side and sit on a knee along the shoulder and the side of the patient. (make sure that that the patient was not bitten by zombie, if so flee or put them out of their misery)

- 3. Adjacent your head to the head of the patient to check by using 3 senses (listen, look, feel) :

 If the patient is breathing by the sound of gasping an air. (If not to the next one)
 If the patient's breast is moving up-down or not (If not to the next one).
 If the patient is breathing (use your feeling on your face), if the patient is breathing then you should feel a soft air from the patient's mouth touched your face. If no and the patient become unconscious, then prepared the CPR.
- 4. For CPR, put your hands together on the chest and push down repeatedly 30 times, tilted the patient's head a little bit to line up the body and blow air into patient's mouth 2 times (do it until help arrives or the patient regain conscious).



GOOD LUCK, HOPE YOU'LL SURVIVE :)

Citation

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