

# Trustworthy Facts on COVID-19



Note 1. The situation is changing daily and readers should use hyperlinks for most recent updates.

Note 2. The World Health Organization (WHO) states [trustworthy sources are essential](#) for instituting evidence-based prevention measures against COVID-19.<sup>1</sup> The following information is extracted from WHO, CDC, Johns Hopkins University and other trustworthy sources.

## What is COVID-19?

Coronaviruses are a family of [seven viruses](#) common in many animals, including camels, cattle, cats, and bats.<sup>2</sup> Common human coronaviruses usually cause mild to moderate upper-respiratory tract illnesses, like the common cold. However, rarely, animal coronaviruses can infect people and then spread between people such as with Middle East Respiratory Syndrome ([MERS](#)),<sup>3</sup> Severe acute respiratory syndrome ([SARS](#)),<sup>4</sup> and now COVID-19 ([SARS-CoV-2](#)) which commenced in China in December 2019.<sup>5</sup>

## What are they symptoms of COVID-19?

[Symptoms of COVID-19](#) infection may appear between 2 to 14 days after exposure and can include fever, cough and shortness of breath, however in some of cases the illness can be severe and fatal.<sup>6</sup>

## World and U.S. situation

Internationally, as of March 20, 2020, 245,484 cases of COVID-19 from 163 countries/regions [had been reported](#) with an overall fatality rate of 3.9%.<sup>7</sup>

In the U.S. there have been [14,250 reported cases with 205 deaths](#).<sup>7</sup>

[WHO report](#) took over 3 months for first 100,000 cases to be reported, and 12 days for the next 100,000.<sup>8</sup>

Note. To compare COVID-19 and flu incidence, U.S. has had 14,202 COVID-19 cases and 205 deaths (1.4% fatality rate),<sup>7</sup> and [CDC estimates](#) that in U.S. as at Mar 7, 2020, this flu season has resulted in 36,000,000 flu cases with 370,000 hospitalizations and 22,000 deaths (0.06% fatality rate).<sup>9</sup>

## How does COVID-19 spread?

On current evidence, [CDC state](#) spread from person-to-person is most likely among close contacts (about 6 feet) through respiratory droplets produced when an infected person coughs or sneezes.<sup>11</sup> These droplets can land in the mouths or noses of nearby people or possibly be inhaled into their lungs. The risk of transmission from touching a contaminated surface or object (and then touching your nose or mouth) is possible but is not thought to be the main way the virus is spread.<sup>10</sup>

## How “Infectious” is COVID-19?

Infectivity is calculated mathematically and termed “R0” (“R-naught”) which is the number of new cases likely to occur from each case. WHO state [COVID-19 R0](#) is likely between 1.4-2.5,<sup>11</sup> but a recent review by [Wu et al](#) puts COVID-19 R0 at 3-6.5.<sup>12</sup> Such high R0

may account for the rapid spread of COVID-19 and makes it more infectious than the R0 of [3 for SARS](#),<sup>13</sup> and the [1.0-5.7 for MERS](#).<sup>14</sup> [By comparison](#) influenza R0 is 1.3 (Seasonal) to 1.8 (Pandemic) and measles R0 is 12-18.<sup>15</sup> With regard to fatality rates, the COVID-19 fatality rate of 3.9%,<sup>7</sup> is less than [SARS \(11%\)](#),<sup>13</sup> and MERS ([35%](#)).<sup>14</sup>

## How can HCP protect themselves against COVID-19?

Clear updated guidelines for healthcare professionals (HCP) protection are available at [WHO](#),<sup>16</sup> [OSHA](#)<sup>17</sup> and [CDC](#).<sup>18</sup> CDC advises that administrative rules and engineering controls, environmental hygiene, correct work practices, and appropriate use of personal protective equipment (PPE) are all necessary to prevent infections. All HCP who enter the room of a patient with suspected or confirmed COVID-19 should adhere to Standard and Transmission-Based Precautions, which along with hand hygiene may include gloves, gowns, respiratory and eye protection. In addition, HCP should take precautions when performing aerosol-generating procedures.<sup>18</sup>

## What if I exhibit COVID-19-like symptoms?

If you develop COVID-19 symptoms or think you might have it, [CDC advise the following](#):<sup>19</sup>

- Stay home except to get medical care
- Separate yourself from others in your home
- Wear a facemask when around others and before you enter a healthcare provider's office
- Cover your coughs and sneezes
- Clean your hands often
- Avoid sharing household items
- Clean high-touch surfaces in your room daily (let someone else clean other areas of the home)
- Monitor your symptoms
- If symptoms worsen (difficulty breathing, persistent chest pain, confusion, bluish face) call 911 and inform them you have, or think you have, COVID-19

## How is 2019-COVID-19 waste handled?

[OSHA](#), [CDC](#) and [WHO](#) all state that waste from COVID-19 patients is handled as standard regulated medical waste (RMW).<sup>16-18</sup>

In their [COVID-19 Infection Prevention Recommendations](#), CDC state, "*Management of...medical waste should also be performed in accordance with routine procedures*".<sup>18</sup>

**For routine RMW containment onsite**, the [CDC RMW Guidelines](#)<sup>20</sup> state:

- A single, leak-resistant biohazard bag is usually adequate for containment of regulated medical wastes, provided the bag is sturdy and the waste can be discarded without contaminating the bag's exterior.
- Contamination or puncturing of the bag requires placement into a second biohazard bag.
- All bags should be securely closed for disposal.

**For routine transport of RMW waste offsite**, the [US Dept of Transport RMW 49 CFR 49 173.134\(c\)](#) requires the above RMW plastic bags be contained in a rigid container,<sup>21</sup> and the Hazardous Materials Table in [49 CFR 172.101](#) requires RMW be transported as "*UN 3291 Regulated medical waste, n.o.s. or Clinical waste, unspecified, n.o.s. or (BIO) Medical waste, n.o.s., or Biomedical waste, n.o.s. or Medical waste, n.o.s.*"<sup>22</sup> (i.e. standard RMW transport packaging).

Note. [Specimens from suspect COVID-19 cases and cultures of SARS-CoV-2](#) are Category B substances and must be packaged and transported as UN 3373 when sent offsite.<sup>23</sup>

## How is COVID-19 waste treated?

As COVID-19 waste is standard regulated medical waste, the RMW chapter of the CDC [2003 Environmental Infection Control Guidelines](#)<sup>20</sup> states:

- Regulated medical wastes are treated or decontaminated to reduce the microbial load in or on the waste and to render the by-products safe for further handling and disposal.
- The treatment need not render the waste “sterile”
- Treatment processes are licensed under each state’s medical waste regulations and treatment methods may include autoclaving, incineration, chemical disinfection, grinding/shredding/disinfection methods, energy-based technologies (e.g., microwave or radiowave treatments), and disinfection/encapsulation method

## Can reusable sharps containers be used for COVID-19 wastes?

Yes. COVID-19 is classified as standard RMW and reusable sharps bins may be used as normal, i.e. meets:

- Meets [OSHA Bloodborne Pathogen Standard 29 CFR 1910.1030](#) requirements.<sup>24</sup>
- Meets [FDA requirements for pre-market clearance](#).<sup>25</sup>
- Meets US DOT 49 CFR requirements, including:
  - [173.134\(c\)2\(x\)](#) requirements for sharps containers,<sup>21</sup>
  - [49 CFR 172.101](#)<sup>22</sup> for Hazardous Materials transport, and
  - [49 CFR 173.197\(e\)\(3\)](#),<sup>26</sup> requirements for reusable sharps containers:

(i) The sharps container is specifically approved and certified by the U.S. Food and Drug Administration as a medical device for reuse.

(ii) The sharps container must be permanently marked for reuse.

(iii) The sharps container must be disinfected prior to reuse by any means effective for the infectious substance the container previously contained.

(iv) The sharps container must have a capacity greater than 7.57 L (2 gallons) and not greater than 151.42 L (40 gallons) in volume.

Note 1. [Recent research by van-Doremalen](#) et al suggests SARS-CoV-2 virus may survive 2-3 days on some hard surfaces,<sup>27</sup> but “surfaces” are not thought to be the main way the virus is spread.<sup>10</sup> Early work showed [simple disinfectants will easily kill SARS coronavirus](#).<sup>28</sup>

Note 2. Reusable sharps bins are not “[patient equipment](#)”<sup>18</sup> and decontamination before removing from COVID-19 patient rooms is not required (i.e. no special handling, labelling or procedures are required).

Note 3. Under [CDC COVID-19 Infection Prevention recommendations](#), personnel entering patient rooms (e.g. to exchange reusable sharps containers) are required to wear appropriate PPE as per facility protocols.<sup>18</sup>

## Can reusable RMW bins be used for COVID-19 wastes?

Yes. COVID-19 wastes are classified as RMW and reusable RMW bins may be used provided the bins meet the normal requirements i.e.:

- Meet [US Dept of Transport 49 CFR 49 173.134\(c\)](#) for rigid containers,<sup>21</sup> and are transported as UN 3291 in accord with [49 CFR 172.101](#).<sup>22</sup>
- Meet [state RMW requirements](#) for decontamination between uses.<sup>29</sup>

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