

## Should Public Libraries isolate material upon return?

### Summary

In an IMLS webinar regarding mitigating COVID-19 in a paper-based collection back at the end of March, an epidemiologist from the CDC confirmed the lack of concern that they had for paper-based materials like books being a transmission route.<sup>1</sup> However, the Federation of Ontario Public Libraries (FOPL), Ontario Library Service – North (OLS-N), and Southern Ontario Library Services (SOLS) provided some early guidance for public libraries on pick-up and delivery services. They recommend **72 hours** based on a document by the Northeast Document Conservation Center (U.S.) referencing the REALM study that shows ‘attenuation of the virus after 3 days on a single paperback book cover’ but longer on other materials and stacked books.<sup>2</sup> It is worth noting that while the REALM project has been accepted as a guidance document for many public libraries, the REALM project itself states that it is not giving recommendations or guidance.<sup>3</sup> The Public Services Health and Safety Association in Ontario (PSHSA) also suggests a quarantine of **24hrs for books that have been handled by patrons, and 72hrs for DVDs and other plastic covers**.<sup>4</sup> 72hrs has thus been the standard for many libraries in North America like Ottawa, Québec National Library and Calgary amongst others. Some libraries have gone further with a **96hr** quarantine period, as seen in Toronto, New York and Boston. Very few libraries and other institutions have decided not to quarantine their returned material, like libraries in Denmark<sup>5</sup> and more recently in British Columbia.

Knowledge about routes of transmission for Covid-19 has evolved since the first wave. The emphasis of fomites has been reduced compared to aerosol transmission and is now considered **unlikely but possible**. Further research has also found that the virus is **unlikely to remain infective** on surfaces in real-world conditions. A few reports point to fomites to explain some outbreaks but proving that is extremely difficult as a person in close contact with contaminated surfaces are often also in close contact with an infected person.

Legally, in what is defined as a red zone in Ontario, applicable Ontario Regulation is **263/20<sup>6</sup>** and requires library material to be disinfected or quarantined for an unspecified **appropriate period of time**. **No regulations** were found from the York region or the City of Vaughan.

The concept of increasing sanitization in order to promote safety, without considering higher transmission risks, has recently been labelled “**hygiene theatre**”. As the possibility of transmission via fomites has been shown to be very low, time and resources directed at cleaning are counterproductive as it creates a false sense of security. Resources should instead be allocated to preventing aerosol transmission. However, there is also the question of **public trust**. Cleaning surfaces and quarantining material may not help in the fight against the novel coronavirus, but it puts the public at ease.

### 1. Can the Covid-19 virus (SARS-CoV-2) be transmitted via fomites?

Since the spring of 2020, when the first wave hit Ontario, scientific research has advanced our knowledge of Covid-19 (SARS-CoV-2) considerably. We now understand the importance of wearing a mask and social distancing as the virus has shown to spread mainly through aerosol or droplet transmission. However, official guidance about other routes of transmission remains unchanged. As such, transmission via fomites (contaminated surfaces) is still largely labelled as **unlikely but possible**.<sup>7,8,9</sup> As World Health Organization explains: “despite consistent evidence as to SARS-CoV-2 contamination of surfaces and the survival of the virus on certain surfaces, there are no specific reports which have directly demonstrated fomite transmission. People who come into contact with potentially infectious surfaces often also have close contact with the infectious person, making the distinction between respiratory droplet and fomite transmission difficult to discern”.<sup>10</sup> In short, there is no scientific research confirming that a case was caused by fomites. However, there is also no research that can prove that such transmission is impossible. And while not a scientific study, fomite transmission has been attributed to several high profile cases in New Zealand –where the virus had been all but eliminated (and as such virtually no community transmission), and where the government had significant resources for contact tracing. In New Zealand, touching a contaminated garbage lid in a quarantine facility is believed to have contributed to one case of Covid-19<sup>11</sup>.

## 2. How long does the virus remains infective on surfaces?

Scientific evidence shows that the virus can survive several days on surfaces. For example, the REALM study found traces of the virus after 3 days on paper book covers and up to 8 days in stacked books.<sup>12</sup> More recently, another study found that the virus was able to survive for 28 days on a bank note, given that the bank note was being kept in ideal laboratory conditions.<sup>13</sup> However, these studies do not tell us how long the virus can remain infective on surfaces. As one scientist puts it: “a clinically significant risk of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) transmission by fomites (inanimate surfaces or objects) has been assumed on the basis of studies that have little resemblance to real-life scenarios”.<sup>14</sup> Indeed, most studies on the survivability of Covid-19 are in laboratory settings. For example, a recent study showed infectivity of Covid-19 up to 96hrs after being applied to different materials, especially on plastic. They also found that proteins, like the ones found in bodily fluids (e.g. saliva from coughs), can help the virus survive longer.<sup>15</sup> Another interesting study used a mathematical model to hypothesize that fomite transmission accounted for 25% of deaths in the U.K. during lockdown – although this study first assumes that fomite transmission is possible, rather than investigating the scientific rate of transmission.<sup>16</sup>

Several studies performed in real life settings have been conducted and found no evidence of possible transmission of Covid-19 through fomites. One study attempted to cultivate the virus in cells. The Covid-19 positive samples they got from a hospital emergency unit and its sub-intensive care ward were not able to infect these cells.<sup>17</sup> The scientists summarized in a follow-up paper that “attempts to culture the positive swabs on Vero E6 cells were unsuccessful, suggesting that patient fomites and surfaces are not contaminated with viable virus”.<sup>18</sup> A second study looked at the same issues. They found that the virus remained infective up to 4 days in a laboratory setting and could infect cells. But they were unable to cultivate the virus from real-life samples from two hospital isolation units and a quarantine hotel.<sup>19</sup> A third study tried a more direct approach. They asked participants who tested positive for Covid-19 within seven days to handle fruits and vegetables. They were asked to cough in their hands and touch the items any way they liked. Samples were then taken from the fruits and vegetables, but none tested positive.<sup>20</sup> As one scientist acknowledges: “In most ‘real-world’ situations, we would expect survival time to be less than in controlled laboratory settings”.<sup>21</sup> And as we can see from the previous studies, survival time and infectivity of the virus on surfaces are lower in real-life scenarios than in laboratory settings.

Several news magazines and journalists have begun to write about the lack of concrete scientific evidence supporting fomite transmission of COVID-19. These articles often advise that time and resources should be spent on preventing other, more likely sources of the spread. An article in Wired Magazine discussed the REALM study and how the results are not necessarily applicable to real world settings but have been adopted as best practices by libraries and other institutions as though they are.<sup>21</sup> Furthermore, one person interviewed in this article suggests that staff resources being spent on quarantining physical items would be better spent on eliminating the threat of aerosol transmission – potentially by regulating the community space, especially regarding how long patrons can spend in the library.<sup>21</sup> A more recent article in the New York Times discusses this same issue – that public health advice in March regarding fomite transmission is no longer directly supported, and yet resources are spent on cleaning surfaces, when they could be spent on improving ventilation.<sup>22</sup> Such a prominent discussion of fomite transmission in two prominent news sources is significant – and yet, both articles lament the lack of public awareness about fomite transmission. It suggests that more work is to be done in educating the public, and other key stakeholders, in the actual spread of the virus.

## 3. Is there any Ontario legislation concerning the isolation of library material?

For Health Regions that are in the Red zones, the applicable Ontario Regulation is 263/20<sup>6</sup>. This law concerns the rules for regions in stage 2. According to the new Covid Response Framework by the Ontario Government, regions in the red zone are considered to be in stage 2.<sup>23</sup> Schedule 2, section 2 states the following: “Public libraries may open if circulating materials that are returned or accessed within the library are disinfected or **quarantined for an appropriate period of time** before they are recirculated”. The “Appropriate period of time” is not specified. For Health Regions in all other zones other than Grey, the applicable Ontario Regulation is 364/20<sup>24</sup>. The section on public libraries is identical to regulation 263/20.

#### 4. Are there any regulations by York Region or the City of Vaughan concerning the isolation of library material?

The York Region is following Ontario regulations and no additional regulations concerning the isolation of library material has been found. As for the City of Vaughan, it also seems to be silent regarding the handling of library materials. As such, it's safe to assume that the York region and the city of Vaughan would want any Ontario regulations to be followed.

#### 5. Are there any health and safety guidance documents mandating the isolation of library material?

According to a guidance document from Public Services Health and Safety Association (PSHSA) for Library Employers, books that have been handled by patrons *in the library* should be left to quarantine for 24 hours before recirculating. Materials with plastic covers, like DVDs or others, should either be quarantined for 72 hours or wiped down with alcohol wipes.<sup>4</sup> The mention of “in the library” makes it unclear if the document is recommending the isolation of library material once they have been returned from patrons' homes. However, the direction provided by the French version of the same document is inconsistent, as it merely states that books handled by patrons should be left to quarantine for 24 hours, and does not specify books handled by patrons in the library. Email communication with the PSHSA consultant on the Education team for libraries has confirmed that a 24hr quarantine is recommended for books.

#### 6. What are the best practices of other libraries, nationally and internationally?

Many large public library systems in North America and Europe continue to isolate books and other materials for a period ranging from 24-96 hours. Public health guidance in these jurisdictions also require such isolation requirements. For instance, Edmonton Public Library quarantines library materials for 72 hours<sup>25</sup>, in order to meet the standards recommended by the Government of Alberta which specifically states that libraries should isolate materials for 72 hours<sup>26</sup>. One library that does isolate their materials but for less than 72 hours is Fulton County Public Library (which encompasses Atlanta Public Library). In doing so, they follow the recommendations put out by the Georgia Public Library Service<sup>27</sup>, which states that suggested quarantine periods for books range from 24-120 hours and that the individual library may decide the appropriate amount. Halifax Public Library does not appear to quarantine materials but suggests that the public quarantine items for 24 hours after borrowing them<sup>28</sup>. Notably, Vancouver Public Library no longer quarantines materials after they are returned.<sup>29</sup> However, they do so on the public health advice of the B.C. CDC, which states that there is no evidence that the virus is transmitted via paper-based products, and that there is a very low risk of transmission due to laminated/glossy products.<sup>30</sup> The BC CDC states that due to this reason, in areas of low transmission in the community, libraries are not required to quarantine loaned materials, but instead should focus on ensuring physical distancing to reduce the spread of the virus directly between people.

#### 7. Addendum: How do the newly identified variants impact fomite transmission?

Several new variants of COVID-19 have been observed in recent months which primarily affects the contagiousness of the virus in various ways. These variations differ but in general include a change to the spike protein, which binds to the human cells, and allows the virus to enter the cells and infect them.<sup>31</sup> In most official government guidance pages regarding the newly observed variants of COVID-19, the advice regarding how the virus spreads remains the same. The CDC has not changed its statement on how COVID-19 spreads, which is that touching surfaces and fomite transmission is not thought to be a common way for the virus to spread.<sup>32</sup> And reportedly, while hundreds of studies on COVID-19 transmission have been performed, only one has found a proven link between a confirmed case and a contaminated surface, in what has been termed a ‘snot-oral’ route.<sup>33</sup> Furthermore, an article in the Washington Posts about the new variants states that according to disease experts, the mutations do not change the fundamental way the virus spreads.<sup>34</sup>

As such, while it is still unclear how much more transmissible the new variants are and why, if the method of transmission is unchanged, fomite transmission should still be quite negligible, or even unlikely. The risk of circulating of library materials is then unchanged.

Report prepared by:

Guillaume Brien-Régimbald  
[guillaume.brien-regimbald@vaughan.ca](mailto:guillaume.brien-regimbald@vaughan.ca)

David Broughall  
[david.broughall@vaughan.ca](mailto:david.broughall@vaughan.ca)

Rachel Palmieri  
[rachel.palmieri@vaughan.ca](mailto:rachel.palmieri@vaughan.ca)

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