

Should We Go Outside During the COVID-19 Confinement and Beyond?

Series | COVID-19 & Response Strategy

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[This document is part of a series of discussion notes addressing fundamental questions about the COVID-19 crisis and response strategies. These documents are based on the best scientific information available and may be updated as new information comes to light.]

Spanish residents have been in confinement for over six weeks with **continued uncertainty** about deconfinement strategies and timelines. We describe some of the key health implications of confinement and prolonged uncertainty and why **solutions are needed** now to ensure health in the midst of the COVID-19 crisis for people across the lifespan and to ensure these solutions are protected over time when intermittent confinement may be necessary.

At ISGlobal, we believe that **cities are empowered to lead the way** in designing and testing transdisciplinary strategies that address health and well-being. This brief, together with briefs on physical activity (<http://ow.ly/RsDx30qAmjf>) and mobility (forthcoming), aim to support policies and resources for the community to **manage deconfinement and be outdoors** ●

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1. Sedentary Behaviour and Obesity

“Children and adolescents may experience approximately 5% weight gain as a result of less physical activity, more sitting, and unhealthy eating behaviours at home.”

Excessive sedentary time is a consequence of confinement and poses significant health risks. Now considered as toxic as smoking, too much sitting (for durations of nine to ten hours per day) is associated with overweight and obesity, cardiovascular disease, and mortality. Moderate-to-vigorous physical activity is known to offset the risks from prolonged sedentary time¹.

Weight gain and obesity are another consequence of COVID-19 confinement. The Spanish Society of Obesity estimates that

children and adolescents may experience approximately 5% weight gain as a result of **less physical activity, more sitting, and unhealthy eating behaviours** at home². These estimates are based on past studies examining variations in weight gain during the short period of time of summer break, a period of time that is similar to the current confinement in duration, but is not subject to outdoor activity restrictions, so it may be an underestimate^{3,4} ●

2. Mood, Depression and Mental and Social Well-Being

“Extended confinement, coupled with economic uncertainty, is leading to social isolation, loneliness, fear and mental health problems.”

Extended confinement, coupled with economic uncertainty, is leading to **social isolation, loneliness, fear and mental health problems** for people across the lifespan and across many circumstances⁵.

Those **most vulnerable** include:

1) Health care workers, police officers, firefighters, pharmacists, mental health specialists and support staff working on the frontline of this pandemic. Health consequences include stress, anxiety, depression, suicidal tendencies, sickness from the virus, lower-quality sleep and sleep disruptions.

2) People at home who live with intimate violence – the majority affected are **women and children** – both physically and emotionally.

3) Older adults who face disruption of routine and extended isolation from their friends and family, lack of access to services and social contacts with clerks and others in the community, and/or who are less likely to be assisted by video technology to facilitate person-to-person contact.

4) People with previous mental health conditions, whose conditions are aggravated by isolation, lack of access to social services and treatment including therapy and prescription medicine.

5) People who have pre-existing conditions and do not access health care services, including pharmacy refills, because of being told to stay home to avoid or feel afraid of contracting the virus ●

¹ Diaz, K.M., et al., Patterns of sedentary behavior and mortality in US middle-aged and older adults: a national cohort study. *Annals of internal medicine*, 2017. 167(7): p. 465-475.

² Wang, G., et al., Mitigate the effects of home confinement on children during the COVID-19 outbreak. *The Lancet*, 2020. 395(10228): p. 945-947.

³ Moreno, J.P., C.A. Johnston, and D. Woehler, Changes in Weight Over the School Year and Summer Vacation: Results of a 5-Year Longitudinal Study. *Journal of School Health*, 2013. 83(7): p. 473-477.

⁴ Franckle, R., R. Adler, and K. Davison, Accelerated weight gain among children during summer versus school year and related racial/ethnic disparities: a systematic review. *Preventing chronic disease*, 2014. 11: p. E101-E101.

⁵ Brooks, S.K., et al., The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet*, 2020.

3. Vitamin D Deficiency

“Providing mechanisms for and encouraging people to be outdoors for at least 30 minutes without sunscreen, exposing arms and legs, is important given the current health crisis.”

Vitamin D, often referred to as the “**sunshine vitamin**” is important for bone metabolism, bone health, muscle functioning, reduced risk of viral infections, cardiovascular health, and wellbeing^{6,7}.

Direct exposure to sunlight is essential to promote vitamin D production. Vitamin D production during summer months may be responsible for reducing viral respiratory tract infections by as much as 50 percent. Although sunlight exposure can have harmful effects (e.g., skin aging and skin cancer), it has **important health benefits**.

Providing mechanisms for and encouraging people to be outdoors for **at least 30 minutes without sunscreen, exposing arms and legs**, is important given the current health crisis^{6,8}, particularly because many households do not have terraces, direct sunlight, or access to rooftops ●

4. Strategies to Support Health in the Time of COVID-19

“Daily routines should extend to include time outdoors on a regular basis and has been permitted in the United Kingdom, France, the Netherlands, Denmark, Switzerland, Germany, Austria, the United States and Canada, among others.”

Governments are now contemplating measures to relax confinement rules while enforcing social distancing requirements. Staying healthy and managing the confinement **starts at home** by keeping up with daily routines – wake times, bedtimes, healthy meals and physical activity.

Daily routines should extend to **include time outdoors on a regular basis** and has been permitted in the United Kingdom, France, the Netherlands, Denmark, Switzerland, Germany, Austria, the United States and Canada, among others. It can be achieved safely and sensibly when utilizing **public parks, pedestrian walkways, open streets, riverways, and beaches**.

Being outdoors and accessing sunlight can address **health concerns** by increasing blood circulation, promoting better sleep, reducing stress, boosting immune function, reducing inflammation, strengthening bones, and allowing better societal integration in a time of isolation⁹.

Importantly, **being outdoors should not increase risk of transmission of COVID-19** as long as **sufficient distances between people are maintained**, and crowds are avoided. Moreover, high temperature and high humidity reduce the transmission of COVID-19, furthering the case for spending time outdoors¹⁰ ●

⁶ Wacker, M. and M.F. Holick, Sunlight and Vitamin D. *Dermato-Endocrinology*, 2013. 5(1): p. 51-108.

⁷ Hobday, R.A. and J.W. Cason, The Open-Air Treatment of Pandemic Influenza. *American Journal of Public Health*, 2009. 99(S2): p. S236-S242.

⁸ Matsuoka, L.Y., et al., Sunscreens suppress cutaneous vitamin D3 synthesis. *The journal of clinical endocrinology & metabolism*, 1987. 64(6): p. 1165-1168.

⁹ Veleva, B.I., et al., Effect of ultraviolet light on mood, depressive disorders and well-being. *Photodermatology, Photoimmunology & Photomedicine*, 2018. 34(5): p. 288-297.

¹⁰ Wang, J., et al., High temperature and high humidity reduce the transmission of COVID-19. Available at SSRN 3551767, 2020.

5. Recommendations

“We recommend at least 30 minutes per day to ensure sensible sun exposure to promote vitamin D production.”

The time for action is now. We recommend the following:

1) At least 30 minutes per day to ensure sensible sun exposure to promote vitamin D production: recommended time outdoors is either in the morning (before 10 am) or afternoon (after 3 pm). For those not feeling well or experiencing mobility limitations, encourage access to building rooftops or courtyards.

2) Exercise up to 60 minutes per day, including walking, running, gardening, cycling, and playing in nearby open spaces, and consider implementing staggered schedules based on building and floor numbers (odd and even) and smartphone scheduling for using outdoor space.

3) Support outdoor food markets and food stands while ensuring vendor and customer safety with social distancing measures that include offering special shopping hours for vulnerable populations including the elderly.

4) Open up streets, bike lanes, parks, plazas, riverways, beaches, trails, and other public spaces to facilitate the movement of people and the maintenance of proper distances.

5) Encourage hospital administrators to work with land planners and other city services to explore potential opportunities to access fresh air during the day to activate health-promoting benefits for patients and health care workers.

6) Prepare adequate signage and tactical interventions throughout public spaces such as parks and *plazas* reminding people to maintain safe distances (1.5 m).

7) Encourage people to use public space during times that are less busy and to use spaces that are less popular.

8) Adopt the slogan “Share the Space, Keep Moving, and Go Home.”

9) Encourage citizens to follow personal hygiene practices prior to, during, and after spending time outdoors:

- a. Wash hands with soap
 - b. Use hand sanitizer
 - c. Wear mask if you have one
 - d. Do not touch your face
 - e. Do not gather in groups
 - f. Avoid playgrounds or other areas where groups may form ●
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Conclusion

“We recommend opening up public spaces (...) allowing the safe movement of people while maintaining a distance of at least 1.5 meters from others at all times.”

Expanding daily routines to include time outdoors and access to adequate sunlight will be essential to maintain health and mental well-being during confinement and various deconfinement scenarios.

We recommend opening up public spaces including parks, bike lanes, beaches, gardens, rooftops, streets, trails, and riverways, among other public spaces, allowing the safe movement of people while

maintaining a distance of at least 1.5 meters from others at all times, and practicing proper hygiene. These solutions should be maintained even if and when intermittent confinement may be reinstated ●

TO LEARN MORE

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