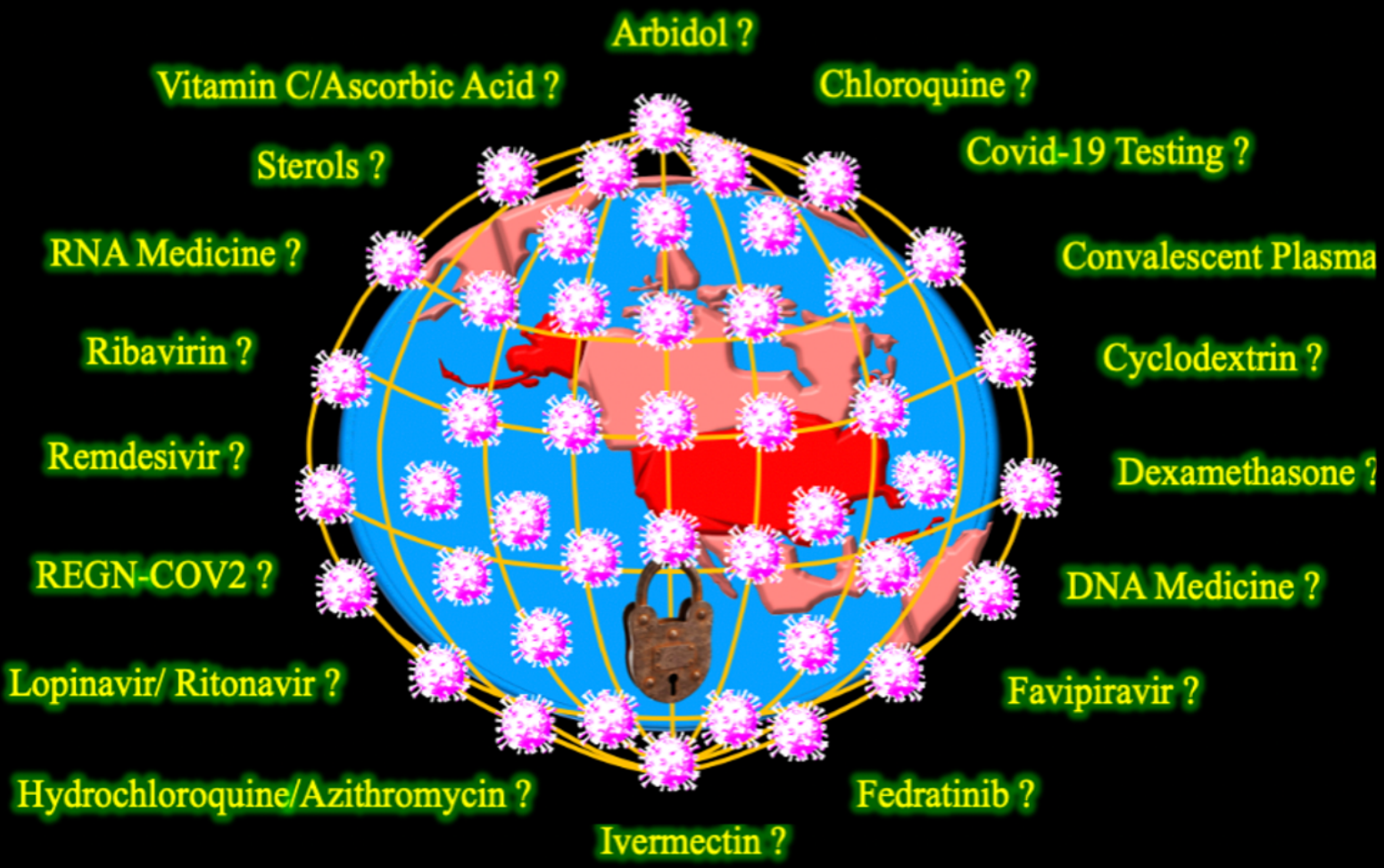


  
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**Fear of coronavirus locks down the world  
and resets activities on the earth**

## Physical Purity in Islam: Pondering the Health Benefits of Proning and the Relationship Between Islamic Dress and Personal Protective Equipment (PPE) in a COVID-19 World

**Islam** is a not merely a religion but a universal prescription for humanity, one that addresses all people, in all manners of life, for all time. During the COVID-19 pandemic, more attention has been given to the Islamic focus on hygiene as it relates to mitigating the spread of the novel virus.<sup>1</sup>

The Prophet of Islam, Muhammad (Peace Be Upon Him), lived by every word of the Holy Qur'an revealed to him. Every manner of human existence was addressed, with specific instructions regarding physical and spiritual health. What is of great interest, particularly now, is how these commandments are beneficially precautionary in nature, with a wisdom that transcends any amount of progress made by the human race over millenia. Hygiene is accorded utmost importance; for a Muslim following the example of the Prophet, cleanliness comprises half of



**Fig. 1.** *The Holy Quran*, which is a guide to humankind, and is revealed to Prophet Muhammad (peace be upon him) by Allah (*the creator*), through the angel Jibreel, ~1400 years ago. This divine book commands about the cleanliness, sujud and veil along other orders.

his or her faith. Before each of the five obligatory daily prayers, a Muslim performs *wudu*, or *ablution*, which consists of washing the hands, mouth, nose, face, arms, head, ears, and feet, in that order, for a prescribed number of times.

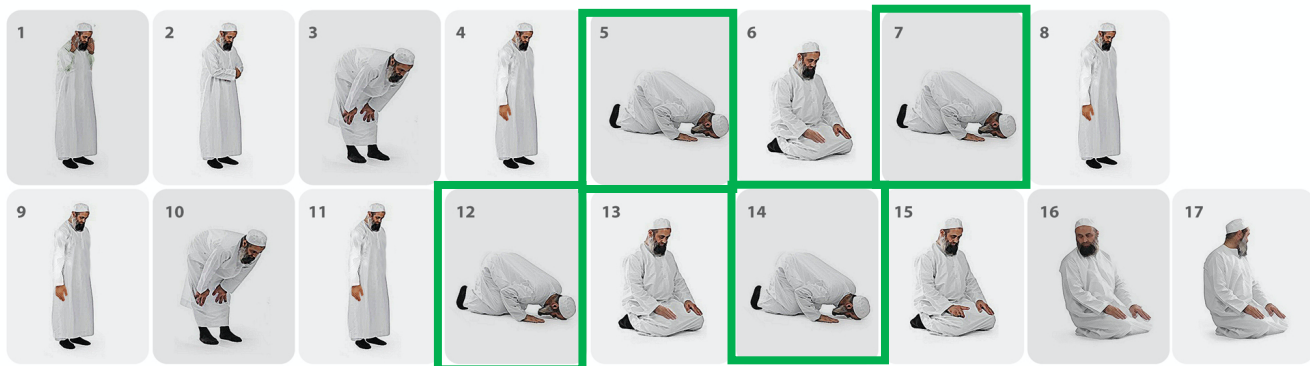
This ritual not only keeps a worshipper purified for prayer, but also keeps him/her in a state of cleanliness throughout the day and night that can prevent the spread of germs and illness. There is a preventive intention behind every drop of water, one that benefits not only the worshipper but also the greater community in which he/she lives.

The physical act of Islamic prayer involves several body positions that are beneficial for human health and include standing up straight, bowing, and prostrating.<sup>2,3</sup>



**Fig. 2.** Illustrations show the sequential steps of performing wudu (cleaning process or ablution) before every prayer. Most Muslims do wudu or ablution immediately after using washroom.

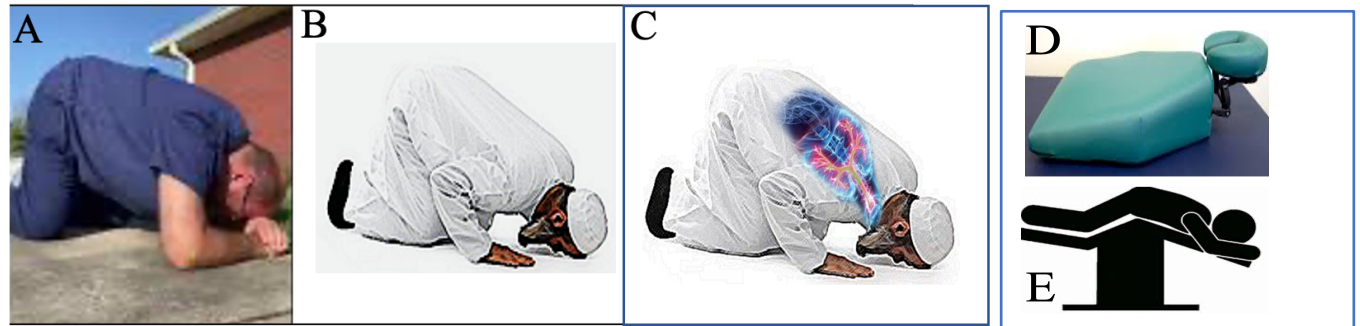
The prostration position, called *sujud*, involves lowering the body to a kneeling position and then placing one's forehead on the floor/ground as shown:



**Fig. 3.** Illustrations show the sequential method of praying first unit or rakah (1-8) and second unit or rakah (9-17) to complete the two (2) units or rakah (prayer). Images # 5, 7, 12 and 14 show the proning positions (*sujud*), which are indicated by green squares.

What is noteworthy here is how *sujud* is similar to the medical use of *proning*, which has become a part of treatment protocols for COVID-19. Proning, by which intensive care patients in respiratory distress are placed on their stomachs, has been practiced in America for decades. Its use became more common with the onset of COVID-19 in March 2020, and it has been the subject of well-designed studies appearing in *The New England Journal of Medicine* and the *Annals of Thoracic Surgery*.<sup>4,5</sup>

bilateral alveolar damage and a severe mismatch between ventilation (the transfer of oxygen in and out of the alveoli during respiration) and perfusion (the flow of blood to the alveolar capillaries). This mismatch results in hypoxia, a condition in which the tissues of the body are starved of oxygen.

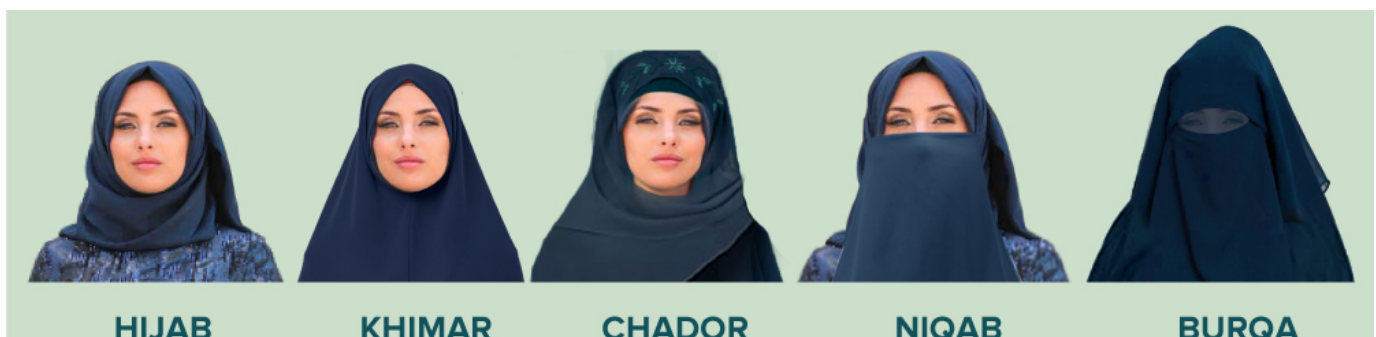


**Fig. 4.** Proning (*sujud*) protects against the COVID-19. (A) Dr. Ahmad Oussama Rifai, a nephrologist/ICU doctor in Panama City, Florida, in a demonstration of the proning position, which exactly matches the position of *sujud* in B and C. In image C, the lungs are superimposed in *sujud* position. The dislodgement of the mucus (phlegm) from the air sacs, bronchioles and its accumulation in trachea is shown in green. The proning cushion and proning position that are used in hospital settings are shown in D and E, respectively.

Proning is important because a patient's physical position will affect the distribution and volume of air in the lungs and can directly affect the expansion or collapse of delicate alveoli that allow for the exchange of oxygen and carbon dioxide within the blood. Lying on one's back (supine position) has long been known to be detrimental to pulmonary function, and mechanical ventilation or intubation is normally administered in this position.<sup>4,7</sup> Proning, as seen above, mimics the position Muslim worshippers use multiple times each day during every prayer.

Clinical investigations into proning began in the 1970s as a means to treat patients with acute respiratory distress syndrome (ARDS).<sup>8</sup> This condition is a cause of death for patients afflicted with COVID-19 and results in diffuse

Proning is a means of not only saving lives in the ICU but also preventing people afflicted with COVID-19 from needing to go to a hospital. One of the earlier proponents of proning during the pandemic was Dr. Ahmad Oussama Rifai, a nephrologist/ICU doctor in Panama City, Florida. Dr. Rifai created a video during the pandemic ([https://www.youtube.com/watch?v=VQ6f\\_0rPStM](https://www.youtube.com/watch?v=VQ6f_0rPStM)) that went viral.<sup>6,7</sup> His message is that proning saves lives whether in the ICU or at home. In the video, Dr. Rifai demonstrates proning and explains that it is extremely effective in helping people expel secretions that build up at the bottom of the lungs. Proning sends oxygen into the alveoli or air sacs (smallest units in the lungs), where COVID-19 attacks and leads to the buildup of glue-like fluids that block the lungs and lead to respiratory failure and suffocation.<sup>6,9</sup> By using a downward force on the



**Fig. 5.** Different types of veils or personal protective equipment (PPE) are displayed that are generally worn by Muslim women around the world.

lungs, proning enables people to cough up secretions that would otherwise continue to build up and impede lung function.<sup>6</sup> It is worth considering that the Islamic manner of offering daily prayer incorporates a movement that has a tremendous health benefit, both as a preventive measure and as a treatment for the afflicted. Muslims have been proning for more than a thousand years, long before anyone could have known a simple prostration has the power to save lives.

A final and related thought regarding Islam's forward-thinking concern for health is *hijab*, a term often associated with the headscarf worn by Muslim women but far more encompassing in scope. The word *hijab* is Arabic and means barrier or partition. Its broader meaning encompasses the principle of modesty and includes behavior and dress for males as well as females. In Western societies, the term *hijab* is most often associated with Muslim females wrapping and concealing their hair, ears, and neck so that only their face is uncovered. Wearing long sleeves, long skirts/dresses, and pants is also part of a modest appearance. Taken together, these wardrobes have the benefit of reducing the amounts of impure elements in the environment that might otherwise adhere to the skin or seep into exposed body parts such as the ear canals. This is, on an individual scale, similar to the use of Personal Protective Equipment (PPE), specialized equipment worn in the workplace to minimize exposure to hazards that could cause injury or illness. In the wake of COVID-19, much coverage has been given to the importance of PPE and the shocking



Fig. 6. Veil (*Hijab*) and PPE

lack of its availability to keep frontline health care workers safe. It has been especially redesigned to address the COVID-19 pandemic in a way that exactly matches with *hijab* of Muslim women (Fig. 6).<sup>10</sup> The conservative dress adopted by many Muslim females (*hijab*) along with the practices of *wudu* and *sujud* thus not only have health benefits but also serve as reminders to the fact that within the Holy Qur'an are commandments designed to serve, and even save, humanity.

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