

## Coronavirus Information

### Coronavirus: What you need to do



**Wash your hands**



**Use a tissue for coughs**



**Avoid touching your face**

### How can I help slow the spread of the virus?



**Stay at home** – no unnecessary journeys or social contact



Only leave home for **essential shopping, medical needs and exercise** once a day



You can travel to and from work if **absolutely necessary**



Public gatherings of **more than two people** are banned - excluding people you live with



**Don't visit** other people's houses or socialise outside your home



Police **will be able to fine you** if you don't follow the rules



If you are unwell, **isolate yourself** and your family



**Keep in touch** with one another

Typically, Worldometer is a statistics site where you can find real-time statistics on various topics from world population to TV sets sold worldwide. Worldometer is owned by Dadax, a company which has no affiliations political, governmental, or corporate bodies. However recently Worldometer has gained a new level of popularity by providing the latest and most comprehensive data about the current pandemic (COVID-19) statistics. The main idea was to centralize all data, in order to prevent misinformation and aid researchers. It mainly tracks the number of cases, number of deaths, and the number of recoveries. The data is further broken down into mild cases, serious cases, and total cases and total recoveries, and total deaths for each country and the world. Worldometer also has a data visualization system that allows a person to see graphs of case timeline, daily deaths, and outcome of cases, etc. The website also has the latest news regarding coronavirus.

The COVID-19 data is obtained from reputable national and international organizations, such as the World Health Organization, U.S. Centers for Disease Control and Prevention, National Health Commission (NHC) of the People's Republic of China, Australian Government Department of Health, etc. It is unlikely that you will be infected by the novel coronavirus by simply touching a contaminated surface. However, if you subsequently touch your mouth, nose, or eyes then this may allow the virus to be transferred to the respiratory system and this may lead to infection. Such contaminated surfaces may include doorknobs.

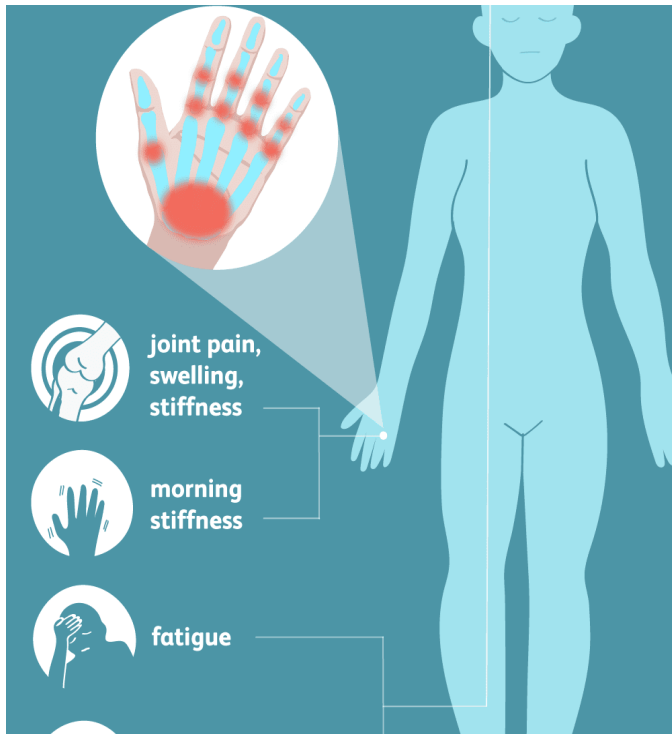
Epidemiologists estimate the coronavirus can live on surfaces like stainless steel for three days, so these devices could be a game-changer in environments such as hospital wards, where hand sanitation is a matter of life and death.

Some door-opening devices have already found their way to market – including the “hygienehook”, created by London-based designer Steve Brooks. Small enough to fit in a pocket and made from easy-to-clean non-porous material, the gadget is already available in four different varieties. Brooks has had requests from NHS Wales and is, meanwhile, donating a hook for every one he sells.

In an era of widespread 3D printing and high-tech software – and at a time when many large-scale manufacturers, including Dyson and Ford, are shifting their attentions to manufacturing medical hardware – small-scale producers are leading the way like never before. And not every design needs to go to market. Welshman Wyn Griffiths devised a hands-free door opener – which clips onto door handles and can be operated using the forearm – after his wife visited a hospital and saw the difficulties staff were facing. Griffiths has since distributed the 3D design online for free and is asking people to print and distribute the handles wherever possible. “Hopefully people who have a 3D printer can help out their local hospital or anywhere the public visits by distributing these around the country,” he told the BBC.

**Written by: Department of Pharmacy**

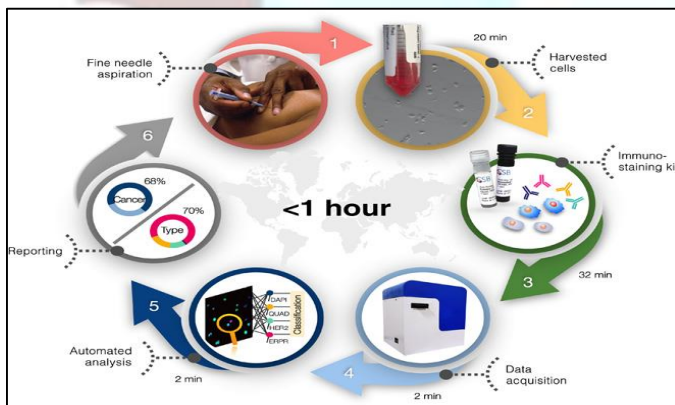
## Identifying Connections between Rheumatoid Arthritis and Cardiovascular Health



Rheumatoid Arthritis is an autoimmune disease, where the immune system becomes confused and progressively attacks not just the joints but the eyes, blood vessels, and other parts of the body. A research team from the University of Milano in Italy wanted to investigate if the onset of rheumatoid arthritis caused the increase of cardiovascular risk factors, or if the risk factors were there before the onset of arthritis. They found that there were two subtle but significant differences in patients with and without a high risk of developing rheumatoid arthritis. Rheumatoid arthritis patients had a higher heart rate, and lower lipid levels, both of which were risk factors of cardiovascular disease. This study identified that two cardiovascular risk factors, heart rate, and lipid levels, were present in many patients with a high risk of developing rheumatoid arthritis before its actual onset. The study could not elaborate on possible reasons why, but never-the-less show that there might be a relationship between rheumatoid arthritis and cardiovascular disease, beyond the apparent symptoms..

**Written by: Nuzhat Zahin (TA)**

## Device Diagnoses Breast Cancer in 60 Minutes



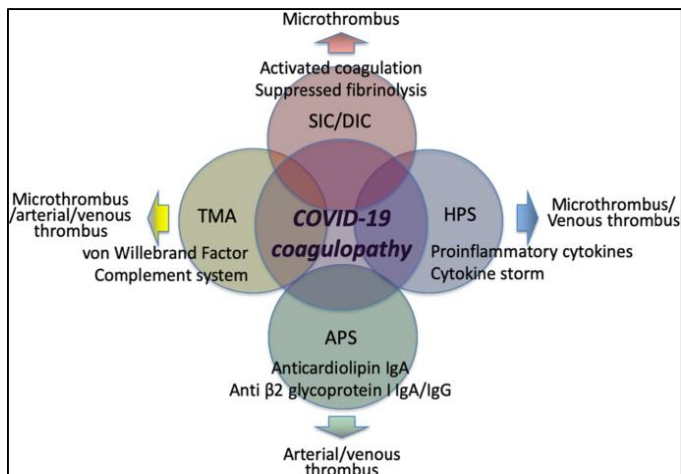
to create CytoPAN. A less painful and invasive method is used to take sample from patient by a fine-needle aspiration. CytoPAN's automated system rapidly captures images and analyzes cells one at a time, looking for histological signs of cancer.

In developing countries, due to the associated costs or access limitations, standard biopsy becomes difficult for breast cancer diagnosis. On the other hand, this low cost and easy-to-use interface kit could cost as little as \$5, a fraction of the cost of current breast cancer diagnostics. In addition, it showed its tremendous potential in validation study that took place in South Korea. Even with minimal sample, it could spot the presence of abnormal, cancerous cells with high levels of accuracy.

The authors states that CytoPAN will not only benefit those in rural but also speed up turnaround times between intervention and results in established health care systems. Therefore, scientists are optimistic that new technologies such as CytoPAN could lower the number of death associated with breast cancer by making routine health checks more accessible to all communities.

**Written by: Sabiha Akhter (TA)**

## Age-old Immune Components Affecting COVID-19 Severity



COVID-19 may be just another, more severe consequence of immune function gone awry like the same as happens in rheumatoid arthritis or seasonal allergies. Researchers observed the coronaviruses similar to the one that caused COVID-19 outbreak seemed to be “masters of mimicry” meaning the viral proteins may mimic the host proteins encouraging host cells into helping the virus complete its life cycle during infection including coagulation and complement proteins in case of COVID-19. Researchers analyzed data from more 11,000 COVID-19 patients from the Columbia University Irving Medical Center observed that More than 25% of patients with AMD which is caused by overactive complement died, and about 20% with AMD required intubation. Researchers saw that people with a history of coagulation disorders were also more likely to die from COVID-19. Lastly, researchers discovered a genetic signature in COVID-19 patients that essentially caught coronavirus “red-handed,” strongly activating both complement and coagulation. Similar findings came from genetic analyses of thousands of COVID-19 patients from the U.K. Biobank therefore portraying that although we would expect to see compliment activated as part of our immune system but it seems over and above what we would see in the other infection like flu leaving an opportunity to utilize drugs for COVID-19 that already exist to inhibit complement.

**Written by: Nahid Nausheen (TA)**

The most unsettling aspects of coronavirus pandemic are the experience of the wide range severity by the people who were affected by it. According to the researchers various diseases and disorders such as age-related macular degeneration (AMD), clotting activity, coagulation disorders like thrombosis obesity and diabetes are related to complement system which in turn may affect how severely a case of COVID-19 progresses. Presence of certain microorganisms may trigger and activate the multiple pathways of complement system made up of more than 20 proteins sequentially. The complement system’s over activity in cases of severe