

# Effects of COVID-19 on Plastic Surgery Practices and Medi-Spas in Different Countries

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The world has changed. Just 2 months ago, we were all living our usual busy lives. Now, however, even basic normal things like having dinner at a restaurant, spending time with our relatives or friends, and going to work are denied in order to contain the COVID-19 contagion. The entire world is undergoing a lockdown, with very few exceptions, Sweden being one of them. Three of the authors (W.P.A., R.d.V., and T.P.) are severely affected by lockdown, whereas the other 2 authors (P.H. and P.M.) are in a considerably different situation working in Sweden. It is interesting to analyze the impact of different COVID-19 restraining measures on practices in different countries.

On March 9, 2020, Italy decided to lock down the entire country, adopting strict regulations similar to the ones originally imposed in China. Then France, Spain, and the rest of Europe, including the United Kingdom and Germany, soon followed Italy. Then the United States followed by implementing similar restrictions. In the Nordic countries, Denmark and Norway closed their borders and also imposed restrictions and lockdowns, whereas neighboring Sweden maintained a much more open society. A complete lockdown includes laws and measures to contain the spread of the disease. The following list encompasses the restrictions applied in different countries, with minor variations in each country:

- People are obligated to avoid leaving their homes except for urgent, severe, familiar, or work-related

reasons that cannot be postponed, or for buying food supplies;

- People with symptoms must stay home until they are tested for COVID-19. If an individual is found positive, he or she must be quarantined;
- Standard time off for healthcare workers is suspended;
- Schools, universities, gyms, museums, ski stations, cultural and social centers, swimming pools, theaters, churches, bars, clubs, and restaurants are closed;
- Visiting other people is prohibited;
- All sporting events and competitions, public or private, are canceled;
- Elective surgeries are banned. Only emergency surgeries should continue to take place;

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- Police and army are in the streets to surveil people from breaking the rules. Financial penalties and even imprisonment for breaking rules are being implemented in some countries.

Whereas the entire country of Italy has been on lockdown for over a month, Sweden has decided to act in a very different way. The objective of Sweden, in the words of its chief epidemiologist, Anders Tegnell, is to aim for the “slow spread of infection so the health services have a reasonable workload.”<sup>1</sup> The following measures have been taken in Sweden:

- The Swedish government originally prohibited public events with more than 500 people, lowering that limit to 50 the last weekend of March;
- If possible, people are recommended to work from home;
- People are urged to stay at home if they are at all sick (even a mild cough or sore throat), practice social distancing, avoid nonessential travel within the country, and avoid nonessential visits to elderly people or hospitals;
- Primary schools have remained open “since youngsters are likely to hang out in coffee shops or at each other’s houses anyway,” as the Prime Minister stated recently. It is well known that elderly people are at higher risk for this disease, that younger individuals usually have milder infections, and that a spread among the healthy and younger populations can help to build herd immunity. In addition, closing primary schools to keep younger children of healthcare workers home would impact the availability of important personnel in the healthcare industry;
- No shops are closed down;
- Restaurants, bars, and coffee shops are still open under the condition that they offer seated, distanced, table-service only;
- People over 70 years of age or in high-risk groups are encouraged to avoid social contact as much as possible, including shopping. For this reason, supermarkets open their doors an hour earlier exclusively for people over 70 to allow them to shop in a safer environment;
- Nobody is policing citizens’ behavior, and no politician passed a law or issued a command to police Sweden’s citizens. Sensible, well-informed, and respectful citizens are policing themselves and one another.

The Swedish approach is designed to balance contagion control with economic damage, trying to preserve business and society in the process. This approach has been made possible by the Swedish culture of following voluntary guidelines over coercive measures.<sup>2</sup> For example, in Sweden, there is no law forcing people to vaccinate their

children; however, 99% of children are vaccinated.<sup>3</sup> On the other hand, in Italy, where vaccinating children is compulsory, 94% to 95% of them are vaccinated.<sup>3</sup> Moreover, during the recent Easter holiday weekend, Swedes reduced their travel by 90% in accordance with the health authority’s requests (determined by tracking mobile phones).

One could object that such different containment measures are feasible because Sweden is a relatively small country with a scarce population density; however, in reality, Sweden’s population density (23 in/km<sup>2</sup>) is approximately two-thirds that of the United States (34 in/km<sup>2</sup>). Italy’s population density (200 in/km<sup>2</sup>) is almost 10 times larger than that of Sweden (23 in/km<sup>2</sup>). In these 3 countries (Sweden, United States, and Italy), most people live in urban areas. Stockholm (5129 in/km<sup>2</sup>) has nearly the same population density of Chicago (4462 in/km<sup>2</sup>) and Miami (5096 in/km<sup>2</sup>). New York has an even higher density (25,846 in/km<sup>2</sup>), Milan (7653 in/km<sup>2</sup>) is denser than Stockholm, whereas Rome (2209 in/km<sup>2</sup>) and Dallas (1346 in/km<sup>2</sup>) have lower densities.<sup>4</sup>

A micromort is a unit of risk defined as having a one-in-a-million chance of death. Different studies have estimated the associated micromort rate of everyday activities and habits; for example, driving a car 1 hour per day increases the risk of death by 2 micromorts.<sup>5</sup> As of April 13, 2020, Italy had 156,363 confirmed cases of COVID-19 and 19,899 deaths, equal to 329 micromorts. Sweden had 10,483 confirmed cases and 1038 deaths, equal to 89 micromorts. The United States had 560,433 confirmed COVID-19 cases and 1693 deaths, equal to 67 micromorts.<sup>6</sup>

These differences may in part be explained by where in time the spread of the disease is occurring inside the country, with Italy being infected before spread and infection occurred in Sweden and the United States. These figures can also be compared in relation to how deadly the seasonal influenza is. Looking at data from the United States, mortality from the seasonal flu varied annually between 12,000 and 61,000 people from 2010 to 2018.<sup>7</sup> With the US population increasing from 309 million to 328 million in the same time period, the micromort is up to almost 200 for seasonal influenza. However, there are clear differences between COVID-19 and the seasonal flu: we do not have a vaccine for COVID-19, and it hits the healthcare system harder and faster. Also, we do not have the final data on COVID-19 yet. Therefore, time will tell whether countries taking total lockdown measures are reasonable and effective, especially because we do not know how this will affect deaths related to increased unemployment. Even if it is difficult to obtain reliable data on the connection between unemployment and mortality, it is well documented that unemployment increases mortality,<sup>8</sup> and it has also been estimated that a 1% increase in US unemployment results in 37,000 deaths, which is equal to more than 100 micromorts.<sup>9</sup>

The COVID-19 pandemic has also significantly affected aesthetic plastic surgeons in every country, resulting in the closure of practices, the necessary cancellation of elective procedures, and the cancellation of local and international conferences. It is therefore interesting to compare how plastic surgery practices located in different countries are dealing differently with the COVID-19 crisis and how these practices have been affected.

One of the authors of this letter (P.M.) has held a solid private practice in Sweden for 12 years and started a private practice in Italy 2 years ago. In a 1-month period (March 9 to April 9, 2020), he witnessed a 29% decrease in his revenue in Sweden and a 100% revenue decrease in his practice in Italy. The authors with practices in countries where lockdown restrictions are active (W.P.A., R.d.V., and T.P.) have experienced a 100% decrease of their businesses. For the large hospital group Akademikliniken in Scandinavia where 2 of the authors work (P.H. and P.M.), it is also interesting to note that all 10 of the so-called walk-in-clinics (medi-spas, offering nonsurgical treatments) have retained 80% of their business during the last month. In contrast, Akademikliniken's businesses in Norway and Denmark (both hospitals and walk-in-clinics) have a complete (100%) lockdown. These data should be a warning regarding the situation facing many aesthetic plastic surgeons and all of their employees in different countries of the world who are facing tremendous financial adversity due to government bans on elective surgeries.

It is difficult to make clear conclusions regarding the safety of both patients and healthcare providers performing elective surgeries during the COVID-19 outbreak. Following the mandate of Swedish healthcare authorities, Akademikliniken, for example, has decided to continue elective procedures but limit them by:

- Postponing or canceling all major procedures (long operating times, higher risk for complications, eg, postbariatric surgeries, circumferential body lifts, etc);
- Not performing surgery on elderly patients (>70 years of age);
- Not operating on smokers and patients with lung diseases;
- Only operating on patients with a BMI < 30;
- Avoiding patients with comorbidities (diabetes type 2, etc);
- Preventing handshaking and promoting careful hygiene (eg, hand washing for 30 seconds);
- Practicing social distancing (1.8 meters) between employees and patients, when possible;
- Instructing patients and employees to stay home even with very mild symptoms of upper airway infections or fever;
- Screening elective cases regarding the following:
  - Standard medical history and specific questions regarding fever, cough, loss of smell, and flu symptoms;

- Any recent contact with sick people/patients;
- Temperature taken on the day of surgery;
- Implementing a surgical team protocol for elective surgery

The world has encountered many changes over the years, and what is happening now is a big shift. We have to adapt to a new way of living and working during a frightening scenario in which people are losing their jobs and businesses are being destroyed after a lifetime of effort to create them. Many plastic surgeons have decided to dedicate themselves exclusively to the aesthetic field, yet their practice is now banned in most countries. Financially surviving is a big challenge, and unfortunately many of us are facing it and will have to continue to deal with it in the upcoming months. Scientific data in the last week have shown that the initial models will be off by 1 to 2 orders of magnitude and that work may resume for much of the world in the near future.

Additionally, we are experiencing terrible and possibly irreversible damage to our livelihoods from this crisis. Although we must take action to control the spread of the pandemic and save lives, we must also take action to protect our livelihoods and our jobs.<sup>10</sup> Mainstream media and social media have often inaccurately written arguments against nonselective isolation as being a matter of lives vs the economy; however, it is truly lives vs lives because the economic effects of prolonged lockdown strategies have not been modeled anywhere close to what the COVID-19 virus has been. However, the mortality of economic effects would be orders of magnitude higher. Experts around the world have explained this in detail, especially in recent weeks.<sup>11</sup>

At this moment, it is not possible to state which country's strategy (total lockdown vs limited Swedish approach) is better in the long term both from health and business points of view. With this letter, we are just describing the situation as it has developed in March and the first half of April 2020 and the impact it has had on our practices. Only time will tell which approach is better to face these unparalleled times. A follow-up to this letter will be provided next year to update the picture regarding the impact of different COVID-19-containing measures on the aesthetic plastic surgery business.

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