




# The First Modified Delphi Consensus Statement for Resuming Bariatric and Metabolic Surgery in the COVID-19 Times

Sjaak Pouwels<sup>1</sup> · Islam Omar<sup>2</sup> · Sandeep Aggarwal<sup>3</sup> · Ali Aminian<sup>4</sup> · Luigi Angrisani<sup>5</sup> · Jose María Balibrea<sup>6</sup> · Mohit Bhandari<sup>7</sup> · L. Ulas Biter<sup>8</sup> · Robin P. Blackstone<sup>9</sup> · Miguel A. Carbajo<sup>10</sup> · Catalin A. Copaescu<sup>11</sup> · Jerome Dargent<sup>12</sup> · Mohamed Hayssam Elfawal<sup>13</sup> · Mathias A. Fobi<sup>7</sup> · Jan-Willem Greve<sup>14</sup> · Eric J. Hazebroek<sup>15</sup> · Miguel F. Herrera<sup>16</sup> · Jacques M. Himpens<sup>17</sup> · Farah A. Hussain<sup>18</sup> · Radwan Kassir<sup>19</sup> · David Kerrigan<sup>20</sup> · Manish Khaitan<sup>21</sup> · Lilian Kow<sup>22</sup> · Jon Kristinsson<sup>23</sup> · Marina Kurian<sup>24</sup> · Rami Edward Lutfi<sup>25</sup> · Rachel L. Moore<sup>26</sup> · Patrick Noel<sup>27,28</sup> · Mahir M. Ozmen<sup>29</sup> · Jaime Ponce<sup>30</sup> · Gerhard Prager<sup>31</sup> · Sanjay Purkayastha<sup>32</sup> · Juan Pujol Rafols<sup>33</sup> · Almino C. Ramos<sup>34</sup> · Rui J. S. Ribeiro<sup>35</sup> · Nasser Sakran<sup>36</sup> · Paulina Salminen<sup>37,38</sup> · Asim Shabbir<sup>39</sup> · Scott A. Shikora<sup>40</sup> · Rishi Singhal<sup>41</sup> · Peter K. Small<sup>2,42</sup> · Craig J. Taylor<sup>43</sup> · Antonio J. Torres<sup>44</sup> · Carlos Vaz<sup>45</sup> · Yury Yashkov<sup>46</sup> · Kamal Mahawar<sup>2,42</sup> 

Received: 22 June 2020 / Revised: 20 July 2020 / Accepted: 28 July 2020 / Published online: 1 August 2020  
© Springer Science+Business Media, LLC, part of Springer Nature 2020

## Abstract

The purpose of this study was to achieve consensus amongst a global panel of expert bariatric surgeons on various aspects of resuming Bariatric and Metabolic Surgery (BMS) during the Coronavirus Disease-2019 (COVID-19) pandemic. A modified Delphi consensus-building protocol was used to build consensus amongst 44 globally recognised bariatric surgeons. The experts were asked to either agree or disagree with 111 statements they collectively proposed over two separate rounds. An agreement amongst  $\geq 70.0\%$  of experts was construed as consensus as per the predetermined methodology. We present here 38 of our key recommendations. This first global consensus statement on the resumption of BMS can provide a framework for multidisciplinary BMS teams planning to resume local services as well as guide future research in this area.

**Keywords** COVID-19 · Resuming elective surgery · Bariatric surgery · Obesity surgery

## Introduction

Though many countries now appear to be past their Coronavirus Disease-2019 (COVID-19) peak, the world is still very much in the midst of a pandemic with tens of thousands of new cases being reported globally every day. Not only that the World Health Organisation has also warned that the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) virus, the causative agent of COVID-19, “may never go away” [1].

Multidisciplinary teams involved in the delivery of Bariatric and Metabolic Surgery (BMS) are trying to find ways to resume their services safely especially because there are expressed concerns that the COVID-19 pandemic might

further aggravate the ongoing obesity pandemic [2]. Several guidelines have been published recently [3, 4] on how to safely resume BMS, but there is currently no global consensus on its various aspects.

Modified Delphi methodology for achieving consensus in areas of poor evidence and disagreements amongst professionals is now firmly rooted in clinical medicine including BMS [5–8]. They are recognised to be more robust and cheaper compared with consensus building in an open room setting. The purpose of this study was to achieve consensus amongst a global panel of expert bariatric surgeons on various aspects of resuming BMS during the COVID-19 era using a modified Delphi methodology.

## Methods

We constituted a committee of 44 recognised opinion-makers in the field of BMS from 23 countries. These professionals are

✉ Kamal Mahawar  
kmahawar@gmail.com

Extended author information available on the last page of the article