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Forward by Kirstyn E. Brownson, MD (Surgical Breast Oncologist)

Jake Erickson was assigned to the breast surgery service during his third-year surgical clerkship. While students assigned to our service usually spend 2 weeks shadowing in the OR and in clinic, clinical activities were suspended due to COVID19 in order to protect students and patients. There is no roadmap as to how to best keep our students engaged and learning during this time. Restrictions on clinical exposure are necessary, but these restrictions have been disappointing to the students and the faculty. I reached out to Jake to review key concepts in breast cancer management and could tell he was really eager to learn and engage. He shared with me that he ultimately wants to pursue a career in psychiatry so I asked if he would prepare a presentation that combined his interest in psychiatry with breast cancer care. Jake prepared the most amazing presentation on the effects of isolation on breast cancer outcomes. He then took the assignment a step further and inquired about how the COVID19 pandemic was going to impact our breast cancer patients given the imposed social isolation during this time.

Jake and I worked together to write this piece. It is something that I am really proud of because it represents a creative exchange of ideas resulting in improved patient advocacy. This is our aim as educators! With this project, Jake learned about breast cancer and he also explored a topic that will shape how he cares for his future patients as a psychiatrist. Jake's curiosity and lens as a student interested in psychiatry really inspired me and brought awareness to an important aspect of patient care. We always screen our patients for distress as breast cancer surgeons, but his presentation highlighted that this is more critical than ever given the social isolation imposed by the COVID19 pandemic.

Title: Combating Patient Isolation: Breast Cancer Treatment During the COVID19 Pandemic

Written by: Jake R. Erickson (Medical Student) and Kirstyn E. Brownson, MD (Surgical Breast Oncologist)

As a healthcare system we have united during the COVID19 public health threat to embrace social distancing and "flatten the curve." In order to conserve scarce resources and limit viral transmission, we healthcare providers have canceled elective surgeries, postponed health screenings, and moved patient encounters to online platforms. While we are fighting to save critically ill patients affected by the virus inside the hospital, we are attempting to keep non urgent and non-emergent patient concerns out of the hospital confines. We are working hard to address our patients' health concerns from the safety of their own homes for both the public and the individual good. However, in our efforts to combat the coronavirus through tactics of isolation, we must not forget about the detrimental role that isolation plays in many human diseases.

Social isolation is implicated as a major risk factor for all-cause mortality, and one of the many disease states it has been shown to negatively impact is breast cancer. While there are numerous scientific studies correlating isolation with worsened breast cancer outcomes, the mechanism through which social isolation negatively impacts breast cancer outcomes is not fully understood. Most studies suggest that isolation ultimately inhibits the body's ability to respond to and fight off cancer. Isolation induced changes in tumor microenvironments, including increased transcription of pro-metastatic genes, changes in inflammatory cell infiltration, and elevated levels of stress hormones, have been noted in experimental models. Studies of mice infected with human breast cancer cells revealed that isolation lead to changes in breast tumor growth pathways which allowed the tumor cells to travel through the body more quickly and grow more rapidly. Human studies have found correlations between isolation and weakening of the body's immune system in the form of decreased natural killer cell activity.

The good news is that the deleterious effects of social isolation seem to be tied to the individual's interpretation of isolation. Thus, loneliness, rather than the physical distance between an individual and others, is likely the driving force behind these poor health outcomes. Furthermore, increased stress experienced by those who are socially isolated is thought to be heavily influenced by an increased perception of stress and a decreased experience of stress relief. This message is critical because it reveals an opportunity that we as healthcare providers have to intervene during the COVID19 pandemic to positively impact the health of our patients. While we must continue to encourage social distancing, we must not let the physical barriers of social isolation become a place for loneliness to take root. We are fortunate to live in a world where we have technologies at our disposal to make human connection possible even when we are physically far apart. We must leverage this technology to check in and ensure that our patients still feel heard. While the healing power of the human touch is absent in a virtual physical examination, virtual visits are excellent vehicles for physicians to investigate psychosocial stressors affecting patients. By recognizing distress we can help our patients cope with this distress and combat its effect on patient disease. Because of the complex nature of COVID19 induced isolation, the overall impact of this risk factor on human disease is difficult to predict. What is certain, however, is that the physical separation imposed by this virus does not need to drive a wedge between the doctor-patient relationship and that this relationship must be utilized to address the isolation experienced by patients during this time in order to safeguard patient health.