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ISM I

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## Potential Complications in I.R. Procedures

### Assessment 2 - Research

**Date:** 21 September 2020

**Subject:** Interventional Radiology

#### **MLA 8 Citations:**

Urman, Richard D., et al. "Impact of Respiratory Compromise in Inpatient Interventional Radiology Procedures with Moderate Sedation in the United States." *Radiology*, 2 July 2019, [pubs.rsna.org/doi/full/10.1148/radiol.2019182455](https://pubs.rsna.org/doi/full/10.1148/radiol.2019182455).

#### **Assessment:**

For this assessment, the main goal was to investigate a study specifically about a certain procedure in interventional radiology (I.R.) and potential mishaps known to be relatively common in that procedure. The article chosen for this purpose was about a potential side effect of respiratory compromise in minimally invasive procedures with moderate sedation, and fit the intended goal extremely well. This study dove deep into the potential causes of respiratory compromise in interventional radiology procedures and developed a solid conclusion about the major causes of respiratory compromise in these procedures in addition to recommended methods to prevent respiratory compromise in one's own work.

The main subject that was being actively searched for in the reading and annotating of the article was potential topics of discussion when interacting with professionals and potential mentors in the interventional radiology field. This goal was appropriately satisfied, as many topics of discussion were found within this article. For example, the study discussed topics such as trends in the interventional radiology field with increasing complexity, procedures with moderate sedation, specific risk factors that could be causes of the respiratory compromise, and the methodology by which this study was conducted. Questions could be asked to professionals, such as ‘what are some specific procedures that you have conducted before where there was a risk of respiratory compromise?’, or ‘about what percentage of procedures do you think require moderate sedation?’ Additionally, the professional’s opinion on the methodology, results, and conclusions of the research could be requested and could potentially turn into a very informative and insightful discussion. For instance, as this article was being read, speculation about what a professional I.R. might think about the conclusion of the study (that the respiratory compromise was mainly caused by long-term opioid therapy or active substance abuse) developed, so being able to ask a professional about this conclusion and if they believe that there are other major causes to consider as well would be very beneficial. Furthermore, curiosity arose about if a professional believes that the recommended precautions (to conduct a pre-procedural assessment of risk factors and to have adequate intraprocedural monitoring) at the end of the article are necessary or even sufficient to properly reduce the risk of respiratory compromises. Also, the article created speculation on how many hospitals in the DFW area implement these precautions and how many respiratory complications occur in I.R. procedures (the study concluded 1% of procedures end in respiratory compromises).

Another goal when reading this article was to develop the overall understanding of the subject of interventional radiology and to check if interest in the subject is still extremely high. This goal was also achieved as this article was very exciting to read and developed my passion in the subject even more. Learning the new terminology and more about what interventional radiology is all about was extremely exciting. This career path is appearing more and more perfect as more research is conducted. Additionally, this article greatly impacted the understanding of the topic of interventional radiology as a whole. More knowledge is being gained, including the fact that interventional radiologists perform a wide variety of procedures and sometimes even need to administer pain relief and sedation, which is usually done by anesthesiologists. It is becoming more clear as more research is conducted that interventional radiology encompasses many different medical fields, including oncology, surgery, and anesthesiology, which, again, makes it all the more interesting and exciting. Also, this article added more to the foundation of knowledge in the interventional radiology field, which is necessary to achieve the objective of obtaining a mentor and gaining a large collection of knowledge on interventional radiology. Furthermore, a large amount of terminology is being learned, especially in this article where it introduced many definitions, including those of moderate sedation (used to reduce patient anxiety, movement, and pain) and respiratory compromise (a state of decompensation that may lead to respiratory issues and potentially death). Terminology will prove to be very useful in conversations with professionals, because lots of knowledge on terminology can impress potential mentors and may earn an interview or create a connection. Additionally, a background knowledge of terminology will make conversations with professionals more efficient and will allow for more advanced topics to be discussed. Without a

basic knowledge of terminology, conversations with professionals will be very surface-level and little knowledge will be acquired from those conversations.

One goal that needed to be accomplished when assessing this article was comparing and contrasting it with prior knowledge and asking the question of if it made sense. That goal was also accomplished, as this article agreed with all of the knowledge that was garnered in the past, including the large amount of research that I conducted in the spring of 2020 on the opioid crisis in America. The conclusion that long-term opioid therapy or active substance abuse was the main cause of respiratory compromise in interventional radiology procedures with moderate sedation was not surprising. Use of opioids and other substances causes a variety of negative health effects including addiction. The entire opioid crisis and all of its parts, including the corrupt pharmaceutical companies and the patient satisfaction surveys, is so widespread that major effects in other medical fields are not surprising. The effect of overuse of substances on complications in I.R. procedures causes 1% of respiratory compromises in I.R. procedures involving moderate sedation in the United States, which is a pretty high percentage considering how many of these procedures are conducted each year. Thus, this study and its conclusion only strengthened prior knowledge about the negative effects of opioid use and how widespread it is.

In conclusion, all three goals, which were to find potential topics of discussion with mentors, to develop the overall understanding of the I.R. field and to check if the interest in I.R. was sustained, and to connect the new knowledge in this article to prior knowledge, were successfully achieved. Future research will continue the garnering of additional knowledge in the field of interventional radiology and will attempt to answer more detailed questions about the field.

**Notes:**

[Impact of Respiratory Compromise in Inpatient Interventional Radiology Procedures with Moderate Sedation in the United States](#)