

Annotated Bibliography

Fionda, B., & Rembielak, A. (2023). Is there still a role for radiation therapy in the management of benign disease?. *Clinical oncology (Royal College of Radiologists (Great Britain))*, 35(11), 698–700. <https://doi.org/10.1016/j.clon.2022.09.051>

This article presents the recommendations of the Royal College of Radiologists on the use of radiation beyond malignancies. The authors discuss the relevance of radiation therapy compared to other non-radiation treatments. They indicate that the amount of benign pathologies being treated has become limited due to fear of adverse effects.

This article contributes to my research by providing information of classifications based on the indication of benign pathologies. It includes a table with multiple conditions and which classification they fall into. Another strength of the source is that it mentions the developments of radiation therapy with different treatments along with the potential responses. A weakness of this source is that it lacks supporting evidence because there is no data that has been proven by the authors themselves, instead it includes a variety of other sources and studies. Another weakness of this article is it may be too summarized. The information provided is valid but it does not go in depth on the topics discussed.

Hernandez, Y. B., Gomez, K. V., & Lopez, A. L. (2022). Treatment of benign tumours and related pathologies with radiotherapy: experience of the General Hospital of Mexico. *Reports of Practical Oncology and Radiotherapy*, 27(4), 684–690. <https://doi.org/10.5603/RPOR.a2022.0072>

The authors present a study of benign tumors being treated by a radiation unit in Mexico. The purpose of this article was to focus on the acute and chronic toxicity applicable from different radiation techniques. It investigates the utilization of radiation therapy for therapeutic options like its anti-inflammatory and anti-proliferative effects. The article summarizes the data of various pathologies including the prescribed dose and the follow-up.

This article is weakened by the lack of variety as all the data has come from only one facility located in Mexico. It is hard to get accurate results based solely on one demographic. Another weakness of this source is that it provided data on rare pathologies that other articles do not have support information on. It has aided in my research as it provided an extensive overview and included the percentages of different radiation options and the recurrence of the condition following treatment. This article also includes the background of radiation therapy on benign conditions and mentions the difference in the past treatments to now.

Carlson, M.L., Link, M.J., & Driscoll, C.L. (2019). *Comprehensive management of vestibular schwannoma*. Thieme.

The authors thoroughly examine the treatment of Vestibular Schwannoma using radiation. This book provides comprehensive study that supplies the reader with a chronological breakdown of this treatment and the possible outcomes or complications that accompany vestibular schwannoma. It is divided into many subsections that include specifics on radiation therapy techniques and the imaging that is included with it.

This book is a helpful source because it supplies an adequate amount of information for research on radiation therapy. It also includes data on leading edge robotics like the cyberknife and its contribution to treatment of inoperable benign tumors. However this book is weakened because it only includes specifications on vestibular schwannoma when there are many benign pathologies out there. It also is lacking in the fact that the writing styles and information are inconsistent as each section is written by different authors.

Nguyen, E. K., Pond, G. R., Greenspoon, J. N., Whitton, A. C., & Hann, C. (2021).

Hypofractionated stereotactic radiotherapy for the treatment of benign intracranial meningiomas: Long-term safety and efficacy. *Current Oncology*, 28(5), 3683–3691.

<https://doi.org/10.3390/curroncol28050314>

This article focuses on the treatment of intracranial meningiomas using hypofractionated radiation therapy. The authors provided the benefits of utilizing this for large volume tumors in sensitive locations over stereotactic radiosurgery. This source concluded that the treatment was tolerable and showed low levels of complication. Included within the data was the radiographic progression-free survival rates indicating that disease response was applicable during the follow-up.

This source is helpful as it supplies in depth information on the long term safety and effects that accompany radiation therapy. There was plenty of data supplied from this article that was easily knowledgeable through its display on various tables and charts. Even though the article was thorough it was lacking in diversity as it only contained information that related to intracranial tumors. Another weakness of this article was even

with background knowledge on radiation therapy some of the language and data was complex and hard to understand.

Torres Royo, L., Antelo Redondo, G., Árquez Pianetta, M., & Arenas Prat, M. (2020). Low-Dose radiation therapy for benign pathologies. *Reports of Practical Oncology and Radiotherapy*, 25(2), 250–254. <https://doi.org/10.1016/j.rpor.2020.02.004>

This article is an application on the utility of low-dose radiation for benign pathologies. The authors provide details on interactions at a cellular and molecular level. The benefits of radiation are significantly highlighted as the anti-inflammatory process is detailed. On the other hand the list of secondary malignancies being induced is included with each possibility described.

This is a valuable source to the research of radiation therapy because it specifies the disadvantages that come with radiation including the possible irradiation effects that can happen due to increased radiation field sizes. This article also takes a different approach by focusing on the cells at a molecular level to see how they truly are being affected by the radiation. However this article may not contain reliable information. All the data was collected from other clinical trials that they further analyzed. This source also lacks a comprehensive organization of information. Even though the subjects were well labeled they became hidden among the complex concepts.

Yang, X., Shao, Y., Yu, W., Zhang, X., Sun, Y., Zhang, L., Li, H., Yang, X., & Fu, J. (2019). A novel radiotherapy approach for keloids with intrabeam. *BioMed Research International*, 2019,(1), 4693528. <https://doi.org/10.1155/2019/4693528>

The authors conducted a study on the effectiveness of intrabeam radiation therapy on keloids. They included an overview on keloids along with their etiologies and the frequency of them in different areas of the body. This source included information on surgical dissection of the keloids before and after receiving radiation therapy. Beneficial effects and little toxicity were noted as the patients quality of life and confidence has improved.

This article aids in research because it compares the results of the intrabeam study to a previous study done using electron therapy. The authors also provide the clinical parameters of the patients that included specifics like dose, bolus, applicator size, treatment time, and follow-up. A disadvantage of this article is that the results may not be very accurate as the sample size was very small. Another flaw in this study is that most of the keloids being treated were very complex which could result in higher recurrence or lower disease response rates.

