Essential Tips on Writing an Effective Case Study for a Medical Device

By Alec Alpert

Typically, a medical device case study is a 500 to 800-word article on how the device improves the diagnosis or treatment of patients. It can also be a success story of how the device increased productivity, revenues, saved money, improved regulatory compliance or reduced downtime. Essentially, a case study is the end user's testimonial on the benefits of the device.

The structure of a case study for a patient diagnostics, for example, typically includes the following sections:

1. Title
2. Case history
3. Procedure description
4. Discussion
5. Conclusion

The title is the most important part of a case study. It must entice the reader to read further. To do this, it should focus on the benefits of the medical device that are relevant to the target audience. Let's say the case study is about an advanced, high-resolution, 3D color, cardiac CT (Computed Tomography) scanner used in a specific hospital. Let's call the scanner Gektar. And let's say the case study uses a 30-year-old female admitted to the emergency room with severe chest pain. The title could say: "Improved Workflow, Speed and Reliability in Diagnosis of Severe Stenosis with High-Definition GEKTAR CT Scanner." An effective title requires a good understanding of one's target audience and what matters most to them.

The case history section describes the patient's symptoms and diagnostics steps. The female patient in this study was in good condition, but slightly overweight. The physical examination and EKG revealed nothing unusual. Her blood cholesterol was mildly elevated, but she had no history of smoking, drug or alcohol abuse, and was happily married. She had never complained about chest pains before. She was then transferred to the GEKTAR CT scanner to perform non-invasive cardiac CT imaging.

The procedure section describes the procedure performed on the patient and the findings. Let's say her heart rate was 87 beats per minute. The scan parameters automatically adapted to this heart rate and the scan was successfully completed in ten seconds. The 3D evaluation software produced the high-resolution, 3D, color images – the key proprietary features of the GEKTAR CT scanner. Within minutes, the high-resolution images revealed severe, non-calcified stenosis in a segment of the heart's blood vessel. The patient was immediately transferred to the cardiac suite for treatment.

The case study includes images of the area affected by stenosis – what the doctors had actually seen on the CT scanner's monitor. The images would have clear and detailed notes of what they depict.

The discussion section emphasizes the unique benefits of the High Definition GEKTAR CT scanner that allowed the transformation of an uncertain and perhaps initially dubious case into a quick and correct diagnosis with decisive actions that probably saved the woman's life. Not only did the CT scanner produce high-resolution images within seconds, but it was also connected to the hospital's information network, where the interventional cardiologists could see and download the 3D color images in seconds, and study the details of the stenosis.

The conclusion section further endorses the CT scanner by stating that the hospital has been using it for over a year on hundreds of patients, and that it has always produced high quality, 3D color images that dramatically improved the reliability of diagnosis, increased productivity, personnel satisfaction and saved lives. Actual quotations and recommendations from doctors could be inserted in this section, stating how incredibly powerful and helpful the GEKTAR CT scanner had been in defining artery diseases, rather than depending on less effective conventional methods.