# Untitled

by Barry Chaiken

## General metrics

| 6,163 | 911 | 46 | 3 min 38 sec | 7 min 0 sec |
|---|---|---|---|---|
| characters | words | sentences | reading time | speaking time |

## Score


This text scores better than 86% of all texts checked by Grammarly

## Writing Issues

| 37 | 2 | 35 |
|---|---|---|
| Issues left | Critical | Advanced |

## Plagiarism

This text hasn't been checked for plagiarism

## Writing Issues

| | | |
|---|---|---|
| 11 | **Engagement** | |
| 11 | Word choice |  |
| 23 | **Clarity** | |
| 9 | Passive voice misuse |  |
| 2 | Unclear sentences |  |
| 12 | Wordy sentences |  |
| 3 | **Correctness** | |
| 1 | Punctuation in compound/complex sentences |  |
| 1 | Confused words |  |
| 1 | Determiner use (a/an/the/this, etc.) |  |

## Unique Words

Measures vocabulary diversity by calculating the percentage of words used only once in your document

**29%**

unique words

## Rare Words

Measures depth of vocabulary by identifying words that are not among the 5,000 most common English words.

**41%**

rare words

## Word Length

5.6

Measures average word length

characters per word

## Sentence Length

19.8

Measures average sentence length

words per sentence

# Untitled

Surgical wound infections are a significant concern in healthcare facilities, with the potential to cause serious[1] complications and increase healthcare costs. It is estimated[2] that up[3] to 5% of patients who undergo surgery develop a surgical site infection (SSI). According to the Centers for Disease Control and Prevention (CDC), SSIs are the most common type of healthcare-associated infection, accounting for approximately 31% of all such infections. SSIs can lead to prolonged hospital stays, increased healthcare costs, and in severe cases, even death. However, with advances in artificial intelligence (AI) technology, hospitals can take proactive measures to prevent SSIs and improve patient outcomes.

Preoperative planning is an essential aspect of preventing surgical wound infections. By analyzing electronic health records (EHRs) and medical imaging data, AI algorithms can identify patients who are[4] at a higher risk of developing SWIs. For example, AI can identify patients with pre-existing medical conditions such as diabetes, which is known to increase the risk of SWIs. Furthermore, AI can also analyze patients' medical history, medications, and allergies to identify potential risk factors that can increase the likelihood of developing SWIs. By identifying high-risk patients before surgery, healthcare providers can take proactive measures to prevent SWIs, such

as administering antibiotics and taking extra precautions during surgery.

AI can help surgeons identify the most appropriate surgical technique for a specific patient,[5] based on factors such as[6] age, sex, and medical history. By analyzing surgical videos and data from surgical instruments, AI can identify

patterns and provide insights that can improve surgical technique. In addition, AI can analyze data from previous surgeries and outcomes to provide surgeons with evidence-based recommendations for surgical techniques that are associated with lower rates of SSIs. This information can help surgeons make more informed decisions about the surgical approach and reduce the risk of infection.

Hospitals can use AI-powered decision support tools to recommend appropriate antibiotic prophylaxis regimens for patients based on their individual risk factors. These tools can also help ensure that antibiotics are administered at the appropriate time before surgery, which is a key factor in preventing SSIs. AI algorithms can also be used to monitor patients for signs of infection after surgery, allowing healthcare providers to intervene quickly and prevent the infection from worsening.

AI can assist in monitoring patients after surgery. By analyzing data from medical sensors and EHRs, AI algorithms can monitor patients' vital signs and detect early signs of infection. For example, AI can detect changes in patients' body temperature, heart rate, and blood pressure that can indicate the presence of an infection. Furthermore, AI can also monitor patients' medication adherence and detect any deviations from the prescribed regimen, which can be an early indicator of an infection. By detecting early signs of infection, healthcare providers can take proactive measures to prevent the infection from spreading and causing further harm to the patient.

AI can help prevent SSIs by optimizing surgical processes. AI algorithms can be used to analyze data from surgical procedures to identify areas where improvements can be made to reduce the risk of infection. For example, AI can

be used[27] to analyze data on the use of[28] surgical equipment and instruments to identify potential sources of contamination. Hospitals can then take steps to improve the sterilization of equipment[29] and reduce the risk of contamination during surgery.

AI can also be used[30] to monitor the environment in surgical suites and identify potential sources of infection. For example, AI algorithms can be used[31] to analyze data from environmental sensors to identify areas where the air quality may be poor or where there may be high levels of bacteria. Hospitals can then take steps to improve the ventilation[32] in surgical suites and reduce the risk of contamination.

Furthermore, AI can assist with infection control in the hospital setting. AI algorithms can analyze hospital data, including infection rates, antibiotic use, and environmental factors, to identify potential infection control issues. Healthcare providers can use this information to implement targeted interventions, such as improved hand hygiene practices, enhanced cleaning protocols, and appropriate antibiotic stewardship, to reduce the risk of SSIs and other healthcare-associated infections.

In addition to preventing SSIs, AI can also be used to[33][34] improve the overall quality of care provided to surgical patients. AI algorithms can be used[35] to analyze data from EHRs to identify patients who are[36] at high risk of developing complications after surgery. Hospitals can then take steps to provide these patients with additional support and resources to improve their outcomes.

Additionally, AI can assist with patient education and communication. AI-powered chatbots can provide patients with information[37] about the surgical procedure, postoperative care, and signs of infection. Patients can interact with the chatbot to ask questions, receive answers, and access resources related to their care. This type of communication can help patients feel more

informed and engaged in their care, reducing the likelihood of complications and improving outcomes.

In conclusion, AI has the potential to revolutionize surgical care and prevent surgical wound infections in hospitals. By providing real-time feedback during surgery, facilitating postoperative monitoring, and assisting with preoperative planning, AI can help surgeons make more informed decisions, reduce the risk of complications, and improve outcomes. Additionally, AI can assist with patient education and communication, identify patients at high risk for SSIs, and facilitate infection control in the hospital setting. While AI is not a substitute for clinical judgment or human interaction, it has the potential to enhance surgical care and improve patient outcomes in the years to

come.

| | | | |
|---|---|---|---|
| 1. | ~~serious~~ → severe | Word choice | Engagement |
| 2. | *is estimated* | Passive voice misuse | Clarity |
| 3. | *It is estimated that up to 5% of patients who undergo surgery develop a surgical site infection (SSI).* | Unclear sentences | Clarity |
| 4. | ~~who are~~ | Wordy sentences | Clarity |
| 5. | patient, | Punctuation in compound/complex sentences | Correctness |
| 6. | ~~factors such as~~ | Wordy sentences | Clarity |
| 7. | ~~that can~~ → to | Wordy sentences | Clarity |
| 8. | give the surgeons | Word choice | Engagement |
| 9. | ~~techniques~~ → procedures | Word choice | Engagement |
| 10. | ~~that are~~ | Wordy sentences | Clarity |
| 11. | ~~individual~~ | Wordy sentences | Clarity |
| 12. | in the proper | Word choice | Engagement |
| 13. | appropriately | Wordy sentences | Clarity |
| 14. | ~~key~~ → critical, crucial | Word choice | Engagement |
| 15. | *be used* | Passive voice misuse | Clarity |
| 16. | ~~be used to~~ | Wordy sentences | Clarity |
| 17. | ~~infection~~ → disease, condition | Word choice | Engagement |
| 18. | ~~detect~~ → see | Word choice | Engagement |
| 19. | ~~patients'~~ → patient's | Confused words | Correctness |

| | | | |
|---|---|---|---|
| 20. | ~~an infection~~ → a disease | Word choice | Engagement |
| 21. | ~~any~~ | Wordy sentences | Clarity |
| 22. | ~~an infection~~ → a disease, a condition | Word choice | Engagement |
| 23. | ~~detecting~~ → seeing | Word choice | Engagement |
| 24. | ~~infection~~ → disease | Word choice | Engagement |
| 25. | *AI algorithms can be used* | Passive voice misuse | Clarity |
| 26. | *improvements can be made* | Passive voice misuse | Clarity |
| 27. | *AI can be used* | Passive voice misuse | Clarity |
| 28. | ~~the use of~~ | Wordy sentences | Clarity |
| 29. | equipment sterilization | Wordy sentences | Clarity |
| 30. | *AI can also be used* | Passive voice misuse | Clarity |
| 31. | *AI algorithms can be used* | Passive voice misuse | Clarity |
| 32. | ~~the~~ ventilation | Determiner use (a/an/the/this, etc.) | Correctness |
| 33. | *AI can also be used* | Passive voice misuse | Clarity |
| 34. | ~~be used to~~ | Wordy sentences | Clarity |
| 35. | *AI algorithms can be used* | Passive voice misuse | Clarity |
| 36. | *AI algorithms can be used to analyze data from EHRs to identify patients who are at high risk of developing complications after surgery.* | Unclear sentences | Clarity |
| 37. | inform patients | Wordy sentences | Clarity |