

EDITORIAL

The calculator of writing

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In 13th century Europe, Christian monasteries were the centres of learning of their age. They contained most of the educated intellectuals of their time. Imagine the loss to society when an elderly monk's vision deteriorated, and those minds were then lost to the collective. Think also of the many gifted brains that were never even tapped into because of congenital poor vision. Imagine then what a revolution the invention of spectacles was for keeping those great minds and brains engaged in education and learning.

Throughout history there have been many revolutionary advances in technology that have shaken up the status quo. These include the invention of writing and mathematics, the printing press for the wide dissemination of ideas, computing, 'spell check' on the Internet, smartphones and many more.

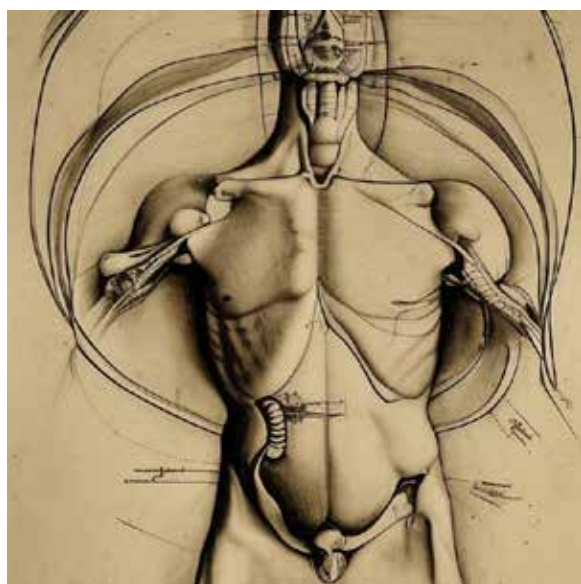


Fig 1. Image generated by ChatGPT with the instruction: 'Draw me a human form in the style of Leonardo Da Vinci'

Just as the electronic calculator liberated us from the tedious calculations of mathematics, freeing the brain to think more deeply and be more creative, we may be seeing the same revolution happening to writing with the emergence of freely available artificial intelligence (AI) to aid in writing, and generate content.

So, what could be the role of AI in medical writing? How can we use this technology to aid us without losing the important parts of individual human thought, ideas and innovation? Could it be like an electronic calculator and write content that can be added to and edited, or will we lose important aspects of scientific enquiry?

The use of AI to develop and generate scientific research articles requires careful consideration of the ethical implications and a commitment to ensuring that the technology is used in ways that are ethical, transparent, and beneficial to the scientific community.

But what of other types of medical writing?

As an exercise we decided to ask OpenAI's ChatGBT¹ to help write this editorial. This edition has a burns theme, so we asked: 'Write an editorial on burns surgery in Australia. Include statistics and references.' ChatGBT generated this response in around 2 minutes (see **Figure 2**)

What else can we as plastic surgeons use AI for?

Well, we asked ChatGBT again: 'Write a comprehensive consent form for breast augmentation surgery. Use dot points.' It generated this form (see **Figure 3**)

Burns surgery is an important and often life-saving part of burn care in Australia. According to the Australian Institute of Health and Welfare (AIHW), there were over 11,000 hospitalisations due to burns in 2019. Of those treated for burns, almost 1,400 required reconstructive surgery.

Surgery plays a role in restoring form and function after severe burns and enables patients to resume their normal activities with minimal pain or discomfort. It helps restore skin colour and texture, as well as reduce scarring and improve movement of affected areas. Depending on the severity of the injury, reconstructive surgery can be performed immediately or delayed until healing has taken place.

The Royal Australasian College of Surgeons (RACS) reports that there are currently 895 practising surgeons in Australia who specialise in the reconstruction of complex burns. More than 55% are based in major cities and 45% in regional and rural areas.

Burns surgery requires specialist expertise, as it can involve complex procedures such as skin grafts, flap reconstruction and reconstructive surgery for scar management. This type of surgery is often performed in conjunction with other treatments such as physiotherapy or occupational therapy to help the patient restore their physical abilities after an injury.

The cost of burns surgery varies depending on the complexity of the procedure and the area affected. The AIHW estimates that between 2016-2017, burn injuries cost close to \$100 million in hospital expenditure alone in Australia. This reflects not only the direct costs associated with treating burns but also indirect costs such as lost productivity and social welfare payments due to disability caused by severe burns.

Burns surgery is an important and often life-saving part of burn care in Australia, with the potential to significantly improve a patient's quality of life. While there are challenges associated with providing access to specialist services, especially in rural and remote areas, it is essential that patients receive the highest level of care available in order to ensure the best possible outcome.

Royal Australasian College of Surgeons rural and regional locations, providing expert care for Australians nationwide.

Burns surgery is a highly advanced specialty that requires extensive training and experience. The RACS provides an accreditation pathway to become a certified Burns Surgeon eligible to work with patients suffering from burn injuries. This means those seeking treatment can be assured that all accredited surgeons have met the highest standards set by the College.

In addition, the Australian Government has invested more than \$14 million into researching new treatments and therapies for burns victims since April 2016. Cutting-edge research from leading Australian universities, in partnership with hospitals and healthcare organisations, has led to the development of new techniques for burns surgery. This is helping thousands of Australians every year to live an improved quality of life after a burn injury.

The landscape of burns surgery in Australia is constantly evolving through research, technology and training. By continuing to invest in innovation and educating certified surgeons, we can ensure that all Australians are able to access high-quality care when they need it most.

Overall, Burns Surgery in Australia is lucky to have such a high-level of expertise and investment from the government, enabling more Australians to access quality care and treatments for burn injuries. This means that those who suffer from burns can look forward to a better quality of life following their injury. In order for this to continue, it is vital that the government and healthcare organisations continue to invest in research, technology and training.

By investing in innovation and educating certified surgeons, we can ensure that Australians receive the best possible care when they need it. This will help all Australians live a healthy, safe and improved quality of life after a burn injury.

REFERENCES

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- 5 This image is reproduced under the terms of the Creative Commons Attribution 4.0 International License (CC BY 4.0). For more information, visit <https://creativecommons.org/licenses/by/4.0/>. No changes were made to this image.

Fig 2. Text generated by ChatGPT with the instructions: 'Write an editorial on burns surgery in Australia. Include statistics and references.'

BREAST AUGMENTATION CONSENT FORM

I understand that breast augmentation surgery is not an exact science and the outcome will depend on my anatomy, body characteristics, and skin elasticity.

- I understand that there may be risks of complications including but not limited to infection, implant rupture/deflation, capsular contracture, asymmetry, skin necrosis and scarring.
- I acknowledge that these potential risks were discussed with me prior to signing this form and that such discussions have been documented.
- I accept full responsibility for any complications which may arise from the surgery or as a result of my medical condition or lifestyle.
- I understand that some degree of postoperative swelling is expected after the procedure; this can take several weeks to months to fully resolve.
- I have had all of my questions answered, understand the information discussed and am satisfied with the responses.
- I acknowledge that any additional procedures or treatments may involve additional fees which must be paid prior to treatment.
- I agree to follow all preoperative and postoperative instructions provided by the physician or their staff in order to reduce risks associated with the surgery.
- I acknowledge that there is no guarantee regarding results from this procedure and that even though every effort will be made to give me optimal results, these cannot be guaranteed due to a variety of factors beyond the physician's control.
- I accept full responsibility for any decisions relating to my care and waive any claim for damages against the physician or their employees should any complications arise from my treatment.
- I understand that results may vary and am willing to accept the potential outcomes of this procedure including those which are less than ideal.
- I understand that I must keep all follow up appointments and any additional consultations as required by the physician in order to ensure adequate healing and optimal results from this surgery.

By signing this document, I am confirming that I have read, understood and agreed to the terms above.

- I understand that this document is a binding legal agreement which will remain in effect regardless of any changes to my health.
- I have had the opportunity to discuss all aspects of this procedure with the physician and am fully informed before making this decision.
- I acknowledge that no representations, promises, or guarantees have been made regarding the outcome of this surgery.
- I understand that there are alternatives to this procedure and have made the decision to proceed with breast augmentation surgery.
- I also acknowledge my right to withdraw or cancel this consent form at any time prior to, during or after the procedure without prejudice.
- I hereby give my full informed consent for the performance of a breast augmentation surgery by the physician as discussed above.
- I agree to pay any costs associated with the procedure or any additional treatments or follow up visits which may be required.
- I understand that this consent form is a legal document and agree to all of its conditions as outlined above.
- I have printed this document for my records and have also been provided with a copy by the physician.

Signature: ----- Date:-----

Witness Signature: ----- Date: -----

The patient acknowledges that he/she has read and understands this consent form in its entirety, and that all questions have been answered satisfactorily. The patient also agrees to abide by the terms and conditions of the consent form. Agreement is hereby acknowledged by signature of both parties.

By signing, I attest that I have read, understand, and accept all of the information outlined above and agree to sign this document voluntarily without any external pressure or intimidation. Furthermore, I acknowledge that I can revoke my agreement at any time prior to treatment.

Signature: ----- Date:-----

Physician Signature: ----- Date: -----

Witness Signature: ----- Date: -----

By signing this document, I understand and agree to all of the conditions as outlined in this consent form.

Signature: ----- Date:-----

Physician Signature: ----- Date: -----

Witness Signature: ----- Date: -----

Fig 3. Text generated by ChatGPT with the instructions: 'Write a comprehensive consent form for breast augmentation surgery. Use dot points.'

When it comes to plastic surgery, obtaining informed consent from patients is an essential part of the process. AI-driven medical writing can help create well-structured consent forms which clearly communicate important points to patients. These documents can also be tailored to individual plastic surgery clinics and patient preferences.

The use of AI in medical writing is a rapidly evolving field. It can be used to create more accurate and comprehensive medical documents such as patient consent forms that save time and costs for plastic surgery clinics and improve patient care. The onus is on content creators to use this tool like a calculator, that is, as a powerful aid and not to completely outsource ideas.

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