IC2A Think Tank 2026

Key Takeaways

- The IC2A Think Tank 2026 focused on two core questions: (1) current examples of AI use in prosthetics & orthotics (P&O) and user experience, and (2) recommendations for future AI use to benefit P&O professionals and users.
- AI is already being actively used across multiple domains: document summarization, peer support matching, clinical documentation, translation, gait analysis, report generation, and presentation creation.
- All groups emphasized that human oversight and verification of AI outputs remains essential — AI should never be trusted blindly.
- A key concern raised was the inaccuracy of AI-generated terminology in specialized P&O and medical contexts, requiring frequent correction.
- AI is seen as a time-saving tool that frees up professionals for more meaningful human interaction, rather than a replacement for human judgment.
- Future opportunities include AI-assisted socket fitting, self-learning prosthetic devices, predictive injury detection, and more objective peer support matching.
- David Constantine raised an important point about terminology: users and clients should not be referred to as "patients" outside of clinical settings, and this language must be corrected at the source before AI can adopt it appropriately.
- IC2A has already leveraged AI to collate, distill, and translate peer support guidelines into multiple languages — a task that would have been impossible manually.

Discussed Topics

1. Meeting Introduction and Participant Introductions

The session opened as a hybrid meeting with four in-room groups and one online group. Dieter facilitated introductions from both in-person and remote participants.

- **Details**
  - **Beth Sheehan**: Joined online from Australia; involved in certification and guidelines discussions.
  - **Rolla Khatib**: Joined online; represents an association supporting amputees emotionally and physically in Lebanon, including provision of prosthetic limbs.

- **Laurent Frossard:** Joined online from Brisbane, Australia; Bionic Limb scientist and professor of bionics at QUT; involved with IC2A in developing upper limb prosthesis guidelines; focuses on bone-anchored neuroprosthesis.
- **Vincent Bohouo**: Joined online from Côte d'Ivoire; president of the local organization IPADEMCI.
- **Melissa Noonan**: Joined online, CEO of Limbs for Life in Australia; above-knee amputee and co-founder of the organization.
- **Catrin Alhaug**: Joined online, member of the executive board of Momentum Norway
- **Ben Messelink**: Joined online, member of Kortermaarkrachtig KMK in Holland; responsible for foreign contacts.
- **Nils-Odd Tønnevold**: Co-founder of IC2A; now chairman of the advisory board.
- **Dieter Jüptner**: Co-founder of IC2A, Vice President of IC2A since its founding.
- **Hannelore Vens**: Current President of IC2A, having taken over from Nils the previous year.
- **Michael Kramer(Table 1)**: Clinical gait trainer and consultant from Germany; member of BMAB; over 20 years of experience.
- **Ashley White (Table 1)**: Representing the American Orthotic and Prosthetic Association (AOPA); former Chief Strategy Officer for the Amputee Coalition; pro bono lobbyist.
- **Petter Tieme (Table 1)**: Board member of IC2A and board of Momentum in Norway.
- **David Rose (Table 1)**: Chair of the Limbless Association in the UK; over 40 years of experience; UK representative to IC2A.
- **Teri Kuffel (Table 1)**: Executive Director of the American Orthotic and Prosthetic Association (AOPA); board member of the Amputee Coalition of America.
- **David Constantine**: Past president of ISPO.
- **Christoffer Lindhe**: Triple amputee for 20 years; founder of prosthetic company Lyndhe Xtend AB; board member of IC2A and Momentum in Sweden.
- **Hernan Villanueva**: Retired prosthetist/orthotist; former president of a related organization.
- **Dario Roth**: Board member of IC2A.
- **Marijke Van Hecke**: Member of Amtraid patients organization for amputees in Belgium; amputee for 40 years (disarticulation).
- **Gundi Urban**: Sales representative from Proteor.

- **Ralph-Achim Gruenther**: Past scientific colleague of Dieter Jüptner from BMAB; over 40 years in amputee surgery and rehabilitation.
- **Karl Feistinger**: Experienced amputee from Germany; has successfully used AI for prosthetic fitting.
- **Sandra Ramdial**: Prosthetist from Canada; current President of ISPO.
- **Michael Fillauer**: General Manager of Fillauer Europe AB; board member of Amputee Coalition; fourth-generation in prosthetics.
- **Bryan Malas**: President-elect of ISPO; oversees orthotic/prosthetic department at a pediatric hospital in Chicago.
- **Susan Rose**: From London; represents the Limbless Association; part of the Family Volunteer Visitor program.
- **Jon Batzdorff**: Prosthetist and orthotist; Treasurer of ISPO board; has practiced in the US and approximately 12 other countries.
- **Rob Hucker**: Head of Secretariat with ISPO.
- **Youssef Salam**: Board member of ISPO; collaborates with Rolla for IC2A Lebanon; based in Egypt; external trainer for Aurovac in Egypt.
- **Ulak Viskod**: Member of Momentum in Norway; involved with Momentum for approximately 30 years.
- **Claude Tardif**: Ortho-Prosthetist (Head of ICRC Physical Rehabilitation Program), board member of ISPO

- **Conclusion**
  - The meeting brought together a highly diverse group of stakeholders including amputees, prosthetists, orthotists, physicians, peer support workers, industry representatives, and patient advocates from across Europe, North America, Australia, Africa, and the Middle East.

2. Think Tank Task Briefing

Nils and Dieter outlined the two core questions for group discussion, with 30–31 minutes allocated for group work before presentations.

- **Details**
  - **Nils / Dieter**: Question 1 — Share personal or professional examples of how AI has been used to benefit P&O and user experience. Question 2 — Recommend how AI could be used in the future for P&O and user benefit.
  - **Beth**: Noted that the online group could not be placed in a breakout room and would submit responses via chat.
  - Groups were asked to nominate one presenter per table.
- **Conclusion**

- Four in-room groups (Tables 1–4) and one online group worked independently before presenting findings to the full assembly.

3. Group 1 Presentation — Current and Future AI Uses (Michael, Table 1)

Michael presented on behalf of Table 1, covering current AI applications and future expectations.

- **Details**
  - **Michael**: Summarized the following current uses:
    - **Document summarization**: AI used to summarize large documents efficiently.
    - **Peer support matching**: In the US, over 850 peers use AI (Copilot) to match individuals seeking peer counseling based on amputation type, gender, and mental health factors.
    - **Call center support**: AI searches internal and external resources to provide call center agents with quick summaries to resolve user queries.
    - **Language translation**: Tools like DeepL used for real-time translation (e.g., communicating with a Spanish-speaking athlete).
    - **Content creation**: AI used to generate text from bullet points for reports and magazine articles; also used to create AI-generated images and cartoons for publications.
    - **Gait analysis**: AI-powered mobile phone programs provide immediate gait analysis reports with visual overlays, useful in gait training.
    - **Clinical documentation**: AI assists CPOs in saving time during patient evaluation documentation; ambient listening tools transcribe patient encounters in real time for clinician review.
    - **Meeting summaries**: AI-generated meeting summaries via tools like Microsoft Teams have improved significantly in quality.
    - **PowerPoint creation**: AI generates slide proposals from bullet points.
  - **Ashley**: Clarified the distinction between standard documentation input and ambient listening tools that passively transcribe patient encounters.
  - **Michael**: On future expectations — AI will help save time and improve product development and patient-product interaction. However, human review remains essential. Raised the "kitchen machine paradox": as AI saves time, expectations rise proportionally, so net time savings may be minimal.
- **Conclusion**
  - AI is already embedded in many professional workflows across P&O and peer support.

- Human oversight is non-negotiable; blind trust in AI outputs is dangerous.
- Efficiency gains from AI may be offset by rising expectations and the need for review.

4. Group 2 Presentation — Current and Future AI Uses (Brian Malus, Table 2)

Brian Malus presented on behalf of Table 2, using an AI-generated PowerPoint presentation created live during the group session as a demonstration.

- **Details**
  - **Bryan**:
    - Uses AI in a hospital-based clinical environment to auto-generate responses to patient emails/queries, which he then reviews and edits before sending. This significantly reduces documentation workload.
    - Teaches students to use AI by having them identify five errors in AI-generated chart notes, building critical thinking and responsible AI use skills.
  - **Susan**: Uses AI to generate peer support reports from voice recordings, reducing documentation burden while still editing and verifying outputs.
  - **Youseff**: Noted that in low- and middle-income countries, AI adoption is low due to lack of awareness of its benefits; stressed the importance of education and demonstrating real-world value.
  - **Ola**: Acknowledged he likely uses AI without realizing it, reflecting how deeply integrated it has become.
  - **Rob**: Highlighted that AI has been in use for years under different names (e.g., search engines, automated processes); the terminology has simply evolved.
  - **Bryan (future)**: Suggested AI could progress from generating clinical notes to making prosthetic/orthotic design recommendations based on evaluation data.
  - **Susan (future)**: Proposed AI-driven peer support matching to replace subjective human assignment, improving objectivity by filtering on amputation level, interests, age, gender, and experience.
  - **Youseff (future)**: Reiterated the need for education before broader adoption can occur.
- **Conclusion**
  - AI is improving efficiency in documentation, communication, and clinical workflows.
  - Human oversight remains essential at all stages.

- Education is a prerequisite for broader adoption, especially in low- and middle-income countries.
- AI-driven peer support matching could improve objectivity and reduce favoritism.

5. Group 3 Presentation — Current and Future AI Uses (Table 3)

Table 3 presented from a multidisciplinary perspective including prosthetists, patients, industry, and a physician.

- **Details**
  - The group discussed multiple AI tools: ChatGPT, DeepL, Microsoft Copilot, Claude, and others.
  - **Advantages identified**:
    - Translation and editing.
    - Summarizing large volumes of literature and information.
    - Generating and improving presentations.
    - Anonymizing and summarizing patient survey data.
    - Providing quick reference information for clinicians.
  - **Disadvantages identified**:
    - AI frequently uses incorrect or imprecise terminology in prosthetics, orthotics, and medicine — requiring significant correction (more than 50% of the time according to one participant).
    - Example: The term "blade" (as in a running prosthesis) was translated into German as "knife" (Messer), which is entirely incorrect in context.
    - Risk of misinformation if outputs are not carefully reviewed.
    - AI-generated content for scientific presentations has required substantial correction.
- **Conclusion**
  - AI tools offer genuine utility for translation, summarization, and content creation.
  - Specialized P&O and medical terminology remains a significant weakness of current AI systems.
  - All AI outputs in clinical and scientific contexts must be carefully reviewed and corrected.

6. Group 4 Presentation — Current and Future AI Uses (Table 4)

Table 4 presented a forward-looking discussion on AI in the amputee and disability environment.

- **Details**
  - **Current uses identified**:
    - Generating images (with a noted challenge: AI tools sometimes add extra limbs to images of amputees, and when asked to remove them, tools refuse citing policy — identified as a discrimination issue).
    - Searching for hard-to-find technical information using serial numbers or partial data.
    - Self-peer support: using AI as a conversational support tool (with appropriate critical awareness).
    - Medical triage: taking a photo of a skin rash and asking AI whether to seek medical attention.
    - Preparing structured question lists for medical appointments.
    - Adaptive travel planning: asking AI about accessibility at travel destinations, including route sketching.
  - **Future opportunities identified**:
    - AI-assisted socket generation from body scans (acknowledged as aspirational; noted that skin scans alone are insufficient without MRI/CT data on bone and tissue composition).
    - AI-powered self-peer support with custom models trained on appropriate peer support terminology and patterns.
    - Self-learning prosthetic devices: rather than the user adapting to the device, the device adapts to the user over time.
    - Efficiency gains for professionals: less time on reports means more time for patient/user interaction.
- **Conclusion**
  - AI has significant potential in the amputee and disability space beyond clinical documentation.
  - The image generation bias against amputees (adding limbs, refusing to remove them) is a real and discriminatory issue that needs to be addressed.
  - Self-learning prosthetic devices represent a transformative future application.

7. Online Group Presentation — Current and Future AI Uses (Beth)

Beth presented on behalf of the online group.

- **Details**
  - **Beth**:
    - AI as emotional support, extending the peer support element.

    - AI in manufacturing: Ben shared examples from the Netherlands where organizations are combining AI with manufacturing processes, particularly in upper limb prosthetics (signal analysis, robotics).
    - Upper limb space seen as potentially more accessible for AI-driven progress than lower limb.
    - Referenced recently published articles on AI's role in prosthetics and orthotics (links to be shared).
    - AI for report generation to support individuals making funding claims (e.g., NDIS plans in Australia) — producing more succinct, efficient reports.
    - Efficient workflow generation at both systems and service levels.
    - Future recommendations: clarifying whether AI tools are being built for clinicians, service users, or both.
    - Improving personalization of AI-generated language outputs.
    - Predictive capabilities: AI predicting pressure injuries, skin irritation, and fit issues before they occur.
- **Conclusion**
    - AI has a role across the full care pathway, from manufacturing to emotional support to funding documentation.
    - Personalization and predictive capabilities are key future directions.
    - Tools must be designed with the end user — the person with an amputation — at the center.

8. IC2A's Own Use of AI — Nils's Remarks

Nils shared how IC2A has already applied AI within its volunteer-driven organization.

- **Details**
    - **Nils**: IC2A was mandated to produce world standards for P&O service provision, presented at the ISP World Conference in Cape Town in 2017. One standard states every P&O user should have access to peer support.
    - IC2A collated peer support guidelines from multiple countries (US, UK, and various European nations), translated them into English, and used AI to distill them into accessible, plain-language summaries.
    - AI-generated summaries were then shared via video call meetings, verified, quality-checked, and disseminated.
    - AI has enabled translation of guidelines into French, German, Spanish, Portuguese, and other languages — a task that would have been cost-prohibitive manually.

    - A summary of the Think Tank discussion will be produced and distributed to all participants and posted on the IC2A website.
- **Conclusion**
    - AI has been a practical enabler for IC2A as a resource-limited volunteer organization.
    - Translation and distillation of complex guidelines into accessible, multilingual formats is a proven use case.

9. Closing Remarks and Terminology Discussion

David Rose and Nils offered closing reflections.

- **Details**
    - **David Constantine**: Raised a critical point about the misuse of the word "patient" throughout the meeting. He emphasized that people with amputations are users, clients, and members of society — not patients — except during the specific time they are in a clinical setting. If this terminology is not corrected at the human level, AI will perpetuate the same errors.
    - **Nils**: Reflected that AI, used correctly, saves time and creates better structure, ultimately freeing up time for more meaningful human contact. Described AI as "a tool — nothing less, nothing more."
- **Conclusion**
    - Correct terminology must be established and used consistently by all stakeholders before AI can be expected to reflect it accurately.
    - AI's greatest value lies in freeing up human time for human interaction.

Challenges

- **AI terminology inaccuracy in P&O and medical contexts**: AI frequently generates incorrect or imprecise specialized terminology, requiring more than 50% correction in some cases. This is a significant barrier to reliable use in clinical and scientific settings.
- **Image generation bias**: AI tools add extra limbs to images of amputees and refuse to remove them, citing policy — a discriminatory design flaw that needs to be addressed by AI developers.
- **Low AI adoption in low- and middle-income countries**: Lack of awareness and education about AI's benefits is limiting adoption in regions where it could have significant impact.
- **Hybrid meeting limitations**: The online group could not be placed in a breakout room, limiting their ability to collaborate in the same structured way as in-room groups.

- **Rising expectations offsetting time savings**: As AI improves efficiency, expectations for output quality and speed increase proportionally, potentially negating net time gains.
- **Socket generation from scans**: AI-assisted prosthetic socket generation from body scans is aspirational but currently limited — skin scans alone are insufficient without complementary imaging (MRI, CT) to capture bone and tissue data.
- **Terminology culture**: The persistent use of "patient" to describe amputees outside clinical settings is a cultural and linguistic challenge that must be corrected at the human level before AI can adopt appropriate language.

Action Items

- **Nils / IC2A Secretariat**
  - Produce a written summary of the Think Tank discussion and distribute to all participants.
  - Post the summary on the IC2A website.
- **Beth**
  - Share links to recently published articles on AI's role in prosthetics and orthotics with all group participants via chat/email.
- **Dieter**
  - Send the group photo taken at the end of the session to participants via the meeting chat or email.
- **All Participants**
  - Review and adopt correct terminology — "user" or "client" rather than "patient" — in all communications, documents, and AI prompts related to people with amputations outside of clinical settings.
  - When using AI for clinical, scientific, or P&O-specific content, implement a mandatory human review and correction process before finalizing any output.
- **Bryan Malas / ISPO**
  - Continue developing and sharing the model of teaching students to critically assess AI-generated clinical notes as a best practice for responsible AI education.
- **Yousef Salam**
  - Develop or support education and awareness initiatives on AI benefits targeted at P&O professionals and organizations in low- and middle-income countries.