

query_intent: knowledge

veterinary medicine advancements

Based on the information provided in the text, veterinary medicine is expected to^[1] see significant advancements by 2023. Some of the trending issues and advancements^[1] in veterinary medicine include:

- **Advancements in technology:** Veterinary clinics are embracing advanced diagnostics, treatments, and surgeries with the use of robotic and computer-assisted surgical tools^[1], special imaging systems^[1], and artificial intelligence for pet diagnostics^[1]. These advances allow for better monitoring of animal behavior, earlier diagnosis of problems, and more accurate treatments.
- **Better understanding of the genetic makeup of animals:** Advances in genetics and genomics have enabled veterinarians to understand the genetic makeup of animals better^[1], aiding in the diagnosis and treatment of diseases. Genetic testing is becoming more common, allowing for the identification of potential health risks^[1] and the detection of inherited diseases or disorders^[1].
- **New treatment options:** Research is underway for new treatment options^[1] for diseases such as Feline Infectious Peritonitis^[1] and immune-mediated diseases in canines. These promising treatments, such as the anti-viral GS-441524 for FIP and therapeutic plasma exchange^[1] for immune-mediated diseases, provide hope for better outcomes in previously difficult-to-treat conditions.
- **Expansion of AI technology:** The integration of artificial intelligence into veterinary medicine helps improve accuracy and efficiency^[1] in disease detection and treatment. AI applications can assist in correctly identifying diseases, predicting future health conditions, providing proactive care, and interpreting medical images.
- **Advancements in precision robotics:** Precision robotics, such as the da Vinci Surgical System^[1], allow veterinarians to perform complex surgeries with greater accuracy and fewer complications^[1]. These robotic systems offer smaller incisions, less anesthesia, and better outcomes for both the veterinarian and the animal patient.
- **Innovations in treatments for chronic illnesses:** Stem cell therapy and platelet-rich plasma therapy^[1] (PRP) have shown effectiveness in treating joint conditions and arthritis^[1]. Stem cell therapy replaces damaged or destroyed cells in the body, while PRP therapy promotes blood flow and aids in the healing process.
- **Use of nanotechnology:** Nanotechnology may revolutionize treatments in veterinary medicine by allowing for precise delivery of therapies to^[1] specific areas of the body. This field of science enables the creation of microscopic devices that can target specific cells and treat^[1] diseases from within.
- **Miniaturized medical devices:** The development of miniaturized medical devices designed^[1] for animals allows for improved diagnostics, monitoring, and therapy. These smaller devices provide better information about animal patients' health, monitor treatment progress, and deliver therapies like vaccinations or drugs.

It is important to note that the information provided is based on the text, and further research may be required to gather additional insights and details on specific advancements in veterinary medicine.

**Follow Up Suggestions**

Can you provide examples of robotic and computer-assisted surgical tools used in veterinary clinics?

How exactly does artificial intelligence assist in pet diagnostics in veterinary medicine?

What are some specific genetic tests that are commonly performed in veterinary medicine?

Could you elaborate on the promising treatments currently being researched for Feline Infectious Peritonitis and immune-mediated diseases in canines?

How does the integration of artificial intelligence improve disease detection and treatment in veterinary medicine?

Can you explain how the da Vinci Surgical System is used in veterinary surgeries?

How effective have stem cell therapy and platelet-rich plasma therapy been in treating joint conditions and arthritis in animals?

Are there any specific examples of nanotechnology being used in veterinary medicine treatments?

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Can you provide examples of robotic and computer-assisted surgical tools used in veterinary clinics?

According to the text, computer-assisted orthopedic surgery^[1] (CAOS^[1]) has been used in equine surgery as a clinical application of robotic and computer-assisted surgical tools. The study describes the use of a navigation system coupled with a cone beam computed tomography unit^[1] for surgical planning and execution in horses. Some examples of surgical procedures performed using CAOS^[1] include placing surgical implants in various bones, performing navigated transarticular drilling^[1], removing articular fragments, and curetting osteolytic lesions.

**Follow Up Suggestions**

How long has computer-assisted orthopedic surgery (CAOS) been used in equine surgery?

Can you elaborate on how the navigation system coupled with a cone beam computed tomography unit is used for surgical planning and execution?

Are there any other clinical applications of robotic and computer-assisted surgical tools in veterinary medicine?

Are there any limitations or challenges associated with using CAOS in equine surgery?

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How long has computer-assisted orthopedic surgery (CAOS) been used in equine surgery?

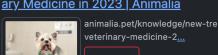
Based on the information in the text, computer-assisted orthopedic surgery^[1] (CAOS^[1]) has been used in equine surgery since the mid-1990s. The first spinal navigation systems^[1], which are a form of CAOS^[1], were introduced to the market

Sources (13)

Add

Selected Sources (1)

[1] New Trends That Will Shape Veterinary Medicine in 2023 | Animalia



animalia.pet/knowledge/new-trends-veterinary-medicine-2_ua

Remove

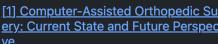
Candidate Sources (12)

Sources (2)

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Selected Sources (1)

[1] Computer-Assisted Orthopedic Surgery: Current State and Future Perspective



ncbi.nlm.nih.gov/pmc/articles/PMC4883971

in this time period (ref. 3, 4, 52–56). These systems were used for procedures such as the insertion of pedicle screws^[1] in the lumbar and thoracic spine^[1], as well as total hip replacement procedures^[1]. The successful utilization of CAOS in equine surgery during this time led to the development and validation of various CAOS modules for a wide range of traumatological and orthopedic applications^[1] over the past two decades^[1] (ref. 3, 4, 57–59). CAOS has evolved into an independent area and has been used in clinical trials and procedures to improve surgical outcomes through enhanced visibility, increased application accuracy, and real-time feedback on surgical actions.

In summary, CAOS^[1] has been utilized in equine surgery since the mid-1990s, with spinal navigation systems^[1] being among the first applications in this field.



Follow Up Suggestions

Can you provide more information about the validation process for CAOS modules in equine surgery?

Are there any specific clinical trials or studies that have demonstrated the benefits of CAOS in equine surgery?

Can you explain how CAOS enhances surgical outcomes through enhanced visibility and increased application accuracy?

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Are there any specific clinical trials or studies that have demonstrated the benefits of CAOS in equine surgery?

Sources (2)

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Removed Sources (2)

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The text does not contain information on specific clinical trials or studies that have demonstrated the benefits of computer-assisted orthopedic surgery (CAOS) in equine surgery.

Pandi could not find an answer in 2 sources. Alternatives:

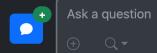
- Modify the query.
- Start a new thread.



Follow Up Suggestions

Can you provide examples of robotic and computer-assisted surgical tools used in veterinary clinics?

Can you provide examples of robotic and computer-assisted surgical tools used in veterinary clinics?



Ask a question

▶