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# "HOW I WOULD LIKE AI USED FOR PAEDIATRIC IMAGING" – PARENT AND CARERS' PERSPECTIVE

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## Introduction

Artificial intelligence (AI) tools for fracture detection are more commonly available than other use cases, however parental and carer acceptance of these tools is poorly understood yet vital prior to successful clinical implementation.

In this study we sought to determine views of parents, guardians and carers to understand their perceptions of this innovative technology.

## Methodology

A survey was created by a PPIE (Patient and Public Involvement & Engagement) Steering Committee and based on a validated questionnaire developed by Ongena et al.

This voluntary, anonymised, online survey was circulated to UK schools, universities and charity partners in 2023, asking for parents and carers of children to participate.

Questions involved opinions regarding the use of AI tools in paediatric imaging in general as well as specifically for fracture detection. Themes covered **information, consent, accountability and best use in practice.**

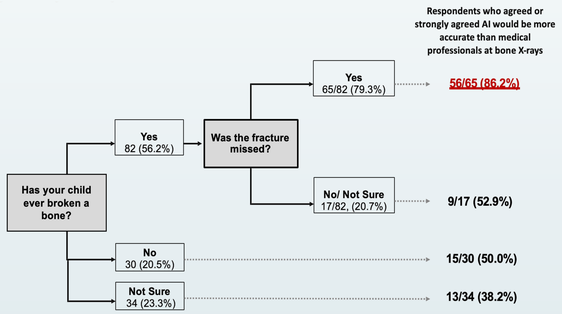
## Results

There were **146 eligible respondents** from all four nations of the UK:

- Most commonly **parents** (58/146, 40%)
- Around half were male (72/146, 49%)
- Most frequent age category of respondents was **41 - 50 years** (33%)

Around half self-reported **above average computer skills** (84/146, 58%) and **understanding of AI** (73/146, 51%).

A majority (93/146, 64%) felt an AI tool would be **more accurate than a clinician** at fracture detection; however, this perception was higher (at 86.2%) for the 65 respondents who reported their child suffered a missed fracture.




Most of the respondents stated they would **want to know the accuracy** of the AI tool being used (105/146, 71.9%) and **would like consent** before applying the AI tool for their child's imaging (104/149, 71.2%).

The majority were **uncomfortable about AI acting autonomously**, and felt AI should only be used to check human judgement (107/146, 73.2%).

Interestingly, respondents stated that even where the AI tool was more accurate, it was **important for a clinician to check** the imaging (97/146, 66.4%).

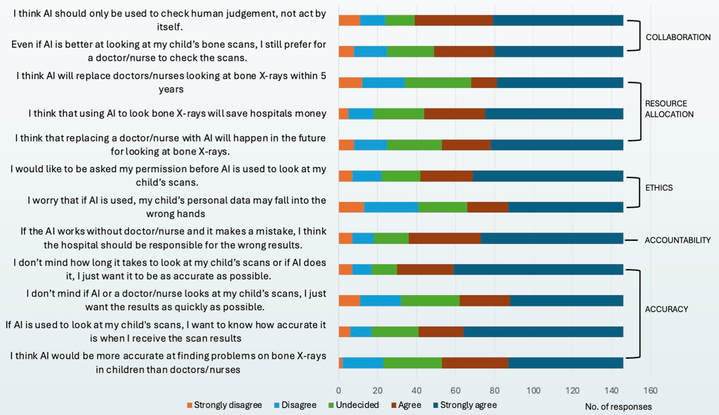



Fig. 1: Graph showing Likert scale responses of parent/carer opinions on AI for paediatric imaging (n=146)

Free-text comments described how AI could **improve efficiency** and **reduce waiting times** within a radiology department, but **autonomous use was again a strong concern**.

Example free-text comments:

*"I believe AI can do initial assessments, but these should always be checked by a clinician."*
*"I do not feel AI should replace human input."*
*"I think that AI should be used especially in cases where doctors are struggling to spot a fracture"*

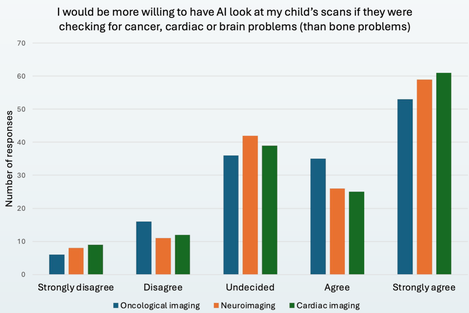



Fig. 2: Graph showing Likert scale responses on willingness to use AI for pathology other than fractures (n=146)

## Conclusion

Overall, parents and carers **were positive about the use of AI** for their child, but strong **concerns were raised about autonomous AI** and the need for **consent with transparency** about the tool's performance. These are important to consider when planning the implementation of AI tools for paediatric imaging.

## References

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