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## Planning a paediatric day, sedation issues, bone scans, MIBG, V/Q scans

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Problems associated with planning the day in paediatric nuclear medicine can be different to those associated with adult nuclear medicine because imaging children in nuclear medicine presents unique challenges. The aim of the radiographer in nuclear medicine is to produce images of the highest quality possible for the radiologist to answer a clinical question.

Success with paediatric imaging often depends on child-friendly members of staff with an understanding of the emotional needs of children and the recognition that a child may require longer than an adult to achieve the goal. Furthermore the needs and emotional well-being of the parents should be considered.

Adopting an appropriate booking system, having friendly staff with a good rapport with children and good planning are all essential criteria in paediatric nuclear medicine. All members of the department must be aware of the need to create the right atmosphere from the first moment the child and parent enter the department, from making an appointment until leaving the department after the examination.

Special techniques must be used when scanning children. Simple immobilization techniques have a profound effect on achieving the optimal scan for the child. When combined with distraction techniques, immobilization can significantly improve the diagnostic quality of the paediatric scan. In many cases, gaining the co-operation of the child may exclude the need for sedation.

81m-krypton for V/Q scans is the preferred ventilation tracer when compared to Technegas or aerosol techniques.

For the acquisition of a high quality bone scan the high resolution collimator should be used. The child must be positioned symmetrically as even slight asymmetries can cause an artefact, thereby influencing the interpretation of the scan. The extended time involved when acquiring a bone scan in children requires keeping the child amused and content.

In conclusion, a successful paediatric service in nuclear medicine requires specialised, motivated staff with a keen interest in working with children.

### References

1. Gordon I, Issues Surrounding Preparation, Information and Handling the Child and Parent in Nuclear Medicine. *J Nucl Med* 1998; 39:490-494.