

# A Survey of the Current Status in Management of Radioactive Wastes from Linear Accelerators in Korea

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## Introduction

- Purpose :** To investigate how radioactive waste generated from linear accelerators is managed in Republic of Korea
  - In the case of using X-ray energy above 8 MV, photon neutrons are generated by the photonuclear reaction
  - The components of the linear accelerator (LINAC) are "ACTIVATED"
- In order to understand the **current status of the management** of radioactive material from LINAC

## Material and Methods

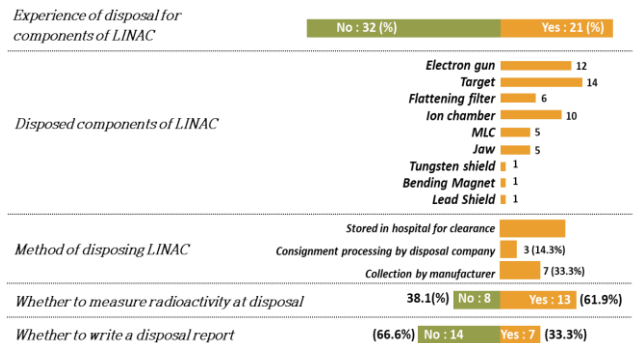
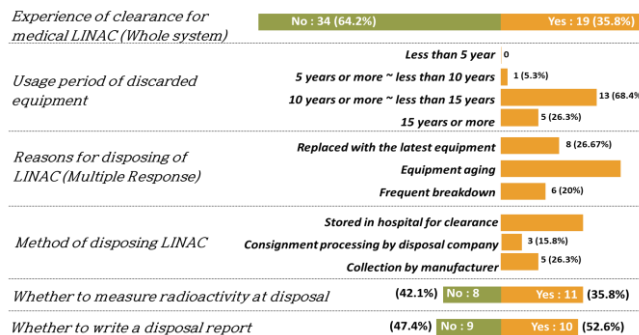
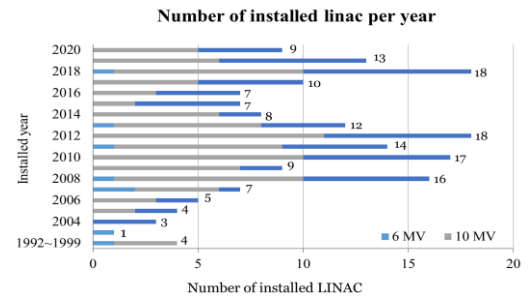
- Survey :** Shielding management status of LINAC facilities
- Radiation oncology departments (100 Institutions) in Korea
- Web-base survey

\* Survey contents

**Status and period of use of LINAC, Installed number of LINAC**  
Whether they have experience of disposing of the linac  
The method of disposal, The reason for disposal, Whether the disposal was measured, Whether the reports were wrote etc.

## Results

- 53 answers were collected** (Most regions in Korea showed a 50–100% response ratio)
- In Republic of Korea, there are 100 radiation oncology institutions, and 182 LINACs are installed.
- Most of medical institutions did not perform radiation measurements when disposing of LINAC or components of LINAC.
- The disposal criteria & regulation for disposal LINAC did not exist.
- The radioactive material from LINAC were either stored within the institution or collected by the manufacturer.



## Conclusion

- In Republic of Korea, standards and procedures for radioactive material from disposal LINAC have not yet been established.
- Most of institutions did not have the regulations for disposing radioactive waste from LINAC, most of institutions follow own policy or dispose through the company/manufacturer.
- There are necessity for establishing a clearance procedures and disposal standards including radioactivity or dose limit.

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