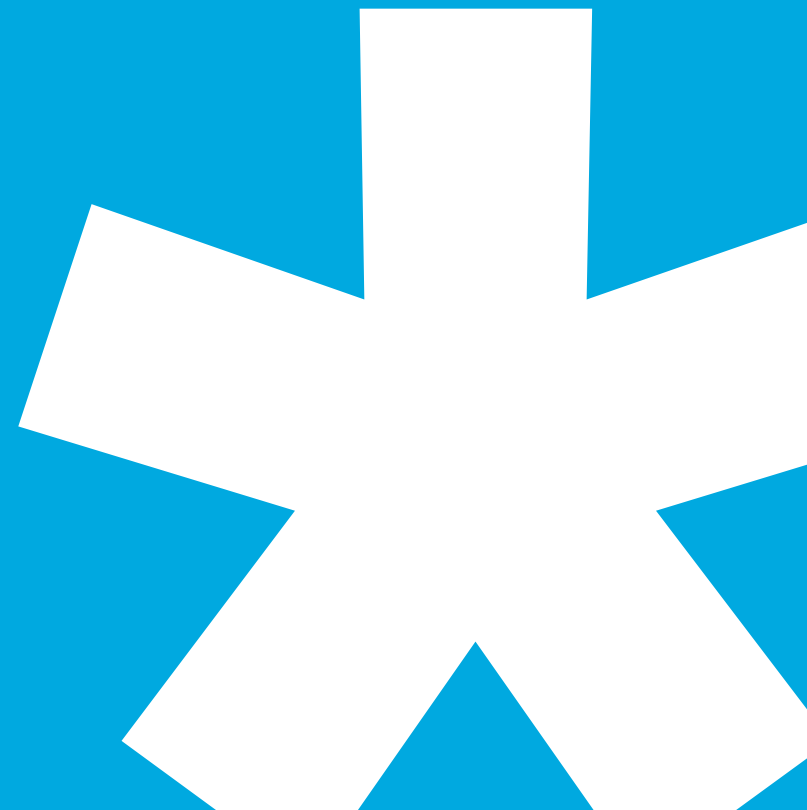


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# AAPM 2019 Point/Counterpoint Debate

**Modern Linacs Monitor Units Should be Defined in  
Water at 10 cm Depth Rather than at DMAX**

**Claas Wessels, Varian Research Scientist**



# Varian Intent Strategy

## Safety First

- Provide tools to ensure linacs are commissioned and calibrated appropriately
  - Align with customer needs and worldwide recommendations (i.e. AAPM, IAEA)
- Rigorous in-house testing of all machine safety aspects
  - Within linacs intended use
- Ensure safe and stable linac output delivery (within design constraints)
  - Ex: Dose rate consistency at isocenter, (maximum dose rate output for all energies, gun current, etc)

# History and Future Proposal

## Ultimate Customization

- Initially, offered some customization in beam data and calibration
  - IROC/RPC reported some linacs output not calibrated to match TPS (C-series, Pinnacle)
- Maximized performance for stable dose rate
  - Current could be adjusted to account for calibration depth

## Pre-Configured Machines

- Decrease number of options in depth of calibration
  - Prefer standardization
  - Increased reliability
  - Better match linac output to TPS
- System design and testing depends on depth chosen
  - Provides optimal dose rate and minimal impact to machine

## Future

- Significant risk in performing changes in calibration depth
  - User error outweighs any gains
- No performance issues with current machines
  - Stable and reliable
- Support pre-configured machines

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