

# Pediatric Proton Therapy in the United States: Patterns of Care 2010



pediatric proton foundation



The **National Association** for **Proton Therapy**

LOMA LINDA UNIVERSITY  
MEDICAL CENTER

cdh  
CENTRAL DUPAGE  
HOSPITAL  
ProCure  
Proton Therapy Center  
INTEGRIS  
Cancer Institute  
OF OKLAHOMA

Ψ  
HEALTH  
Proton Therapy Center

MGH  
1811  
MASSACHUSETTS  
GENERAL HOSPITAL  
1811 - 2011

Penn Medicine

HAMPTON UNIVERSITY  
PROTON THERAPY INSTITUTE  
FIGHTING CANCER, SAVING LIVES

THE UNIVERSITY OF TEXAS  
MD Anderson  
Cancer Center

UF  
UNIVERSITY OF FLORIDA  
PROTON  
THERAPY  
INSTITUTE

★ = In Operation    ☆ = Under Construction    ★ = In Development

# Survey Methodology

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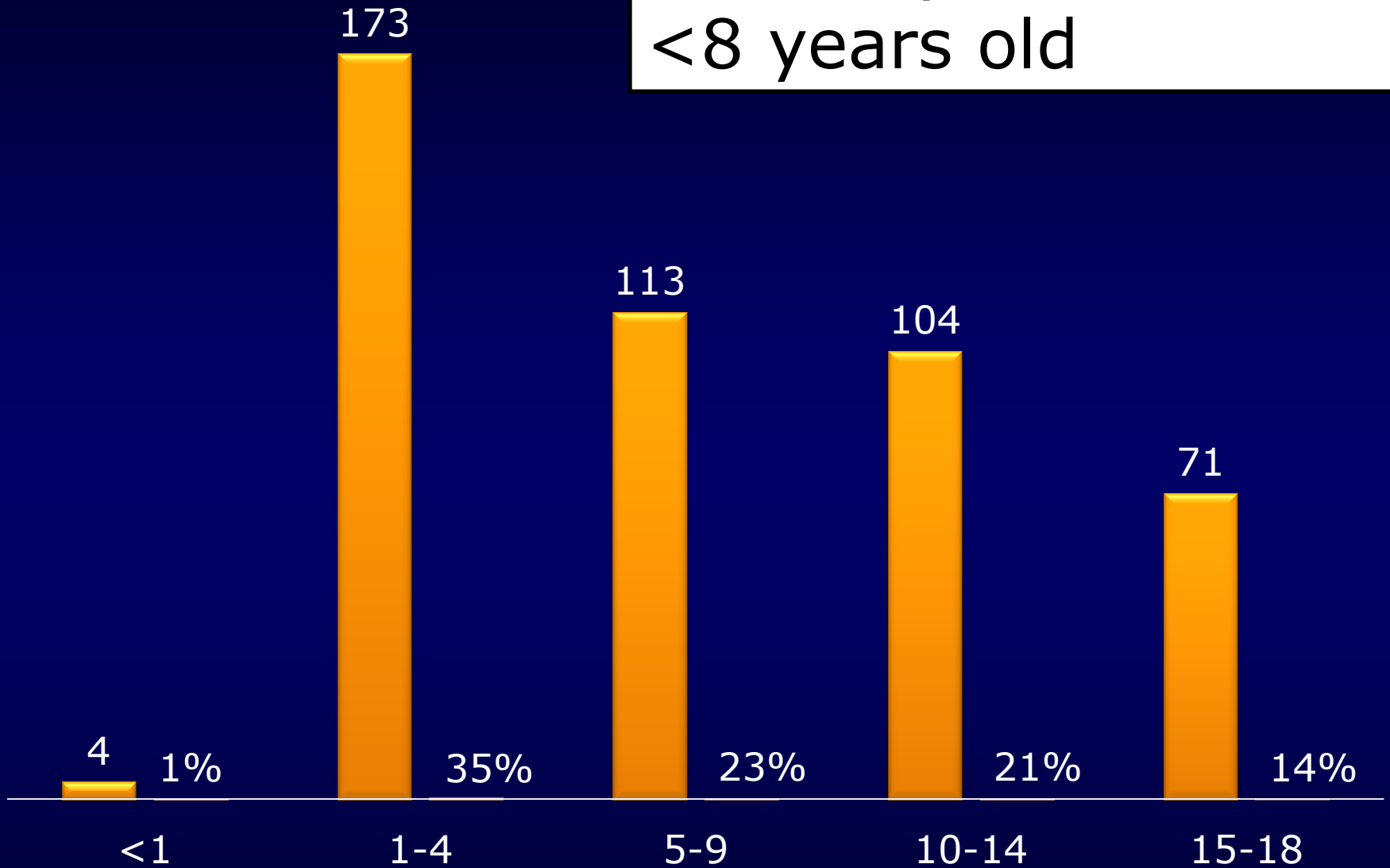
- All 9 proton centers were surveyed by staff of PPF and NAPT
  - Anonymous patient age range, tumor site, and histology collected for patients treated from 1/1/2010-12/31/2010
- Data processed and collated by PPF/NAPT
- 100% response rate

# Results

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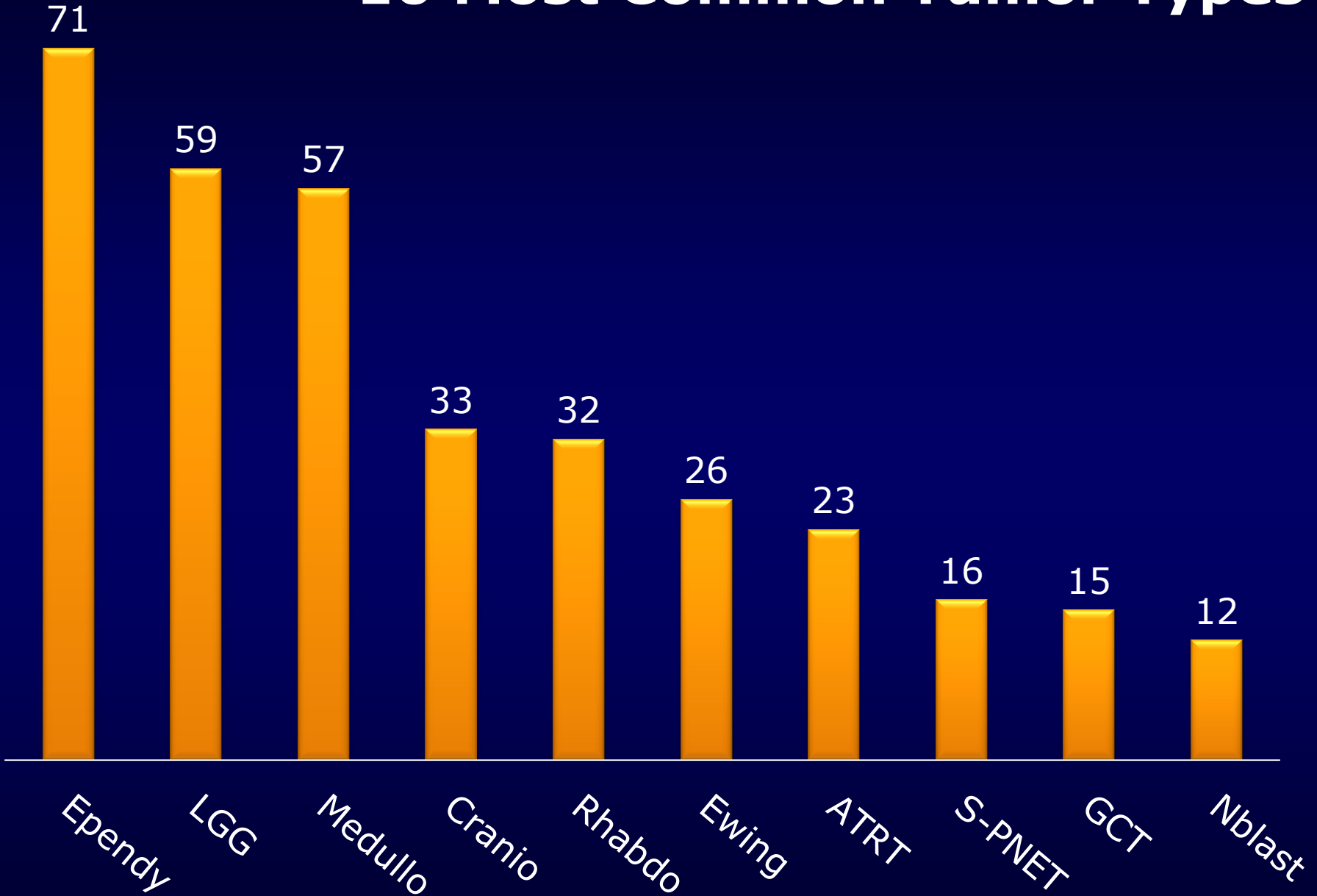
- 465 children and adolescents treated with proton therapy in 2010
- All facilities treated  $\geq 1$  pediatric patient
  - Hampton University and Procure-Central DuPage opened mid-year
- Approximately 45 different diagnoses
- 66% of patients treated at 3 centers (MGH, MDACC, UF)

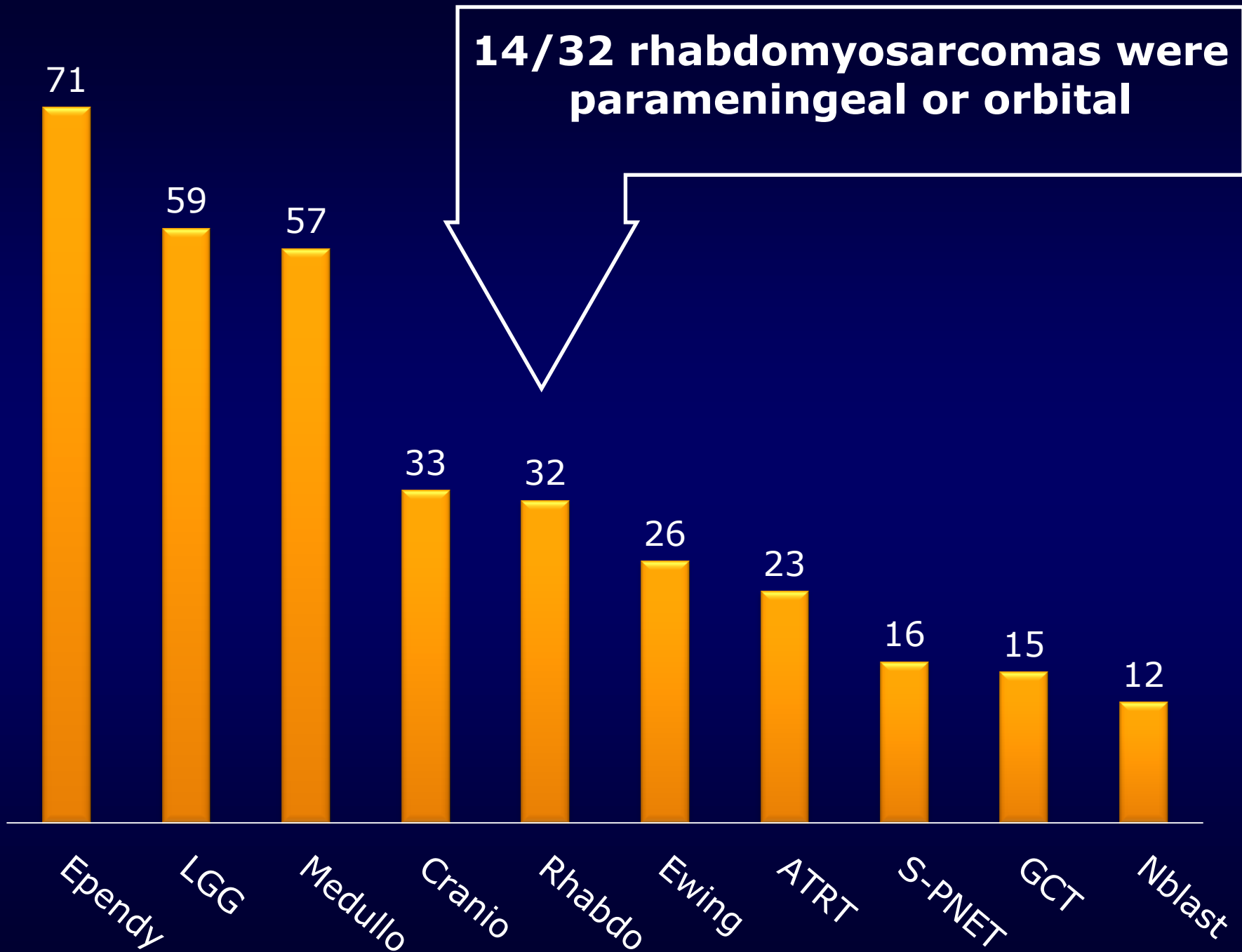
53% of patients were  
<8 years old

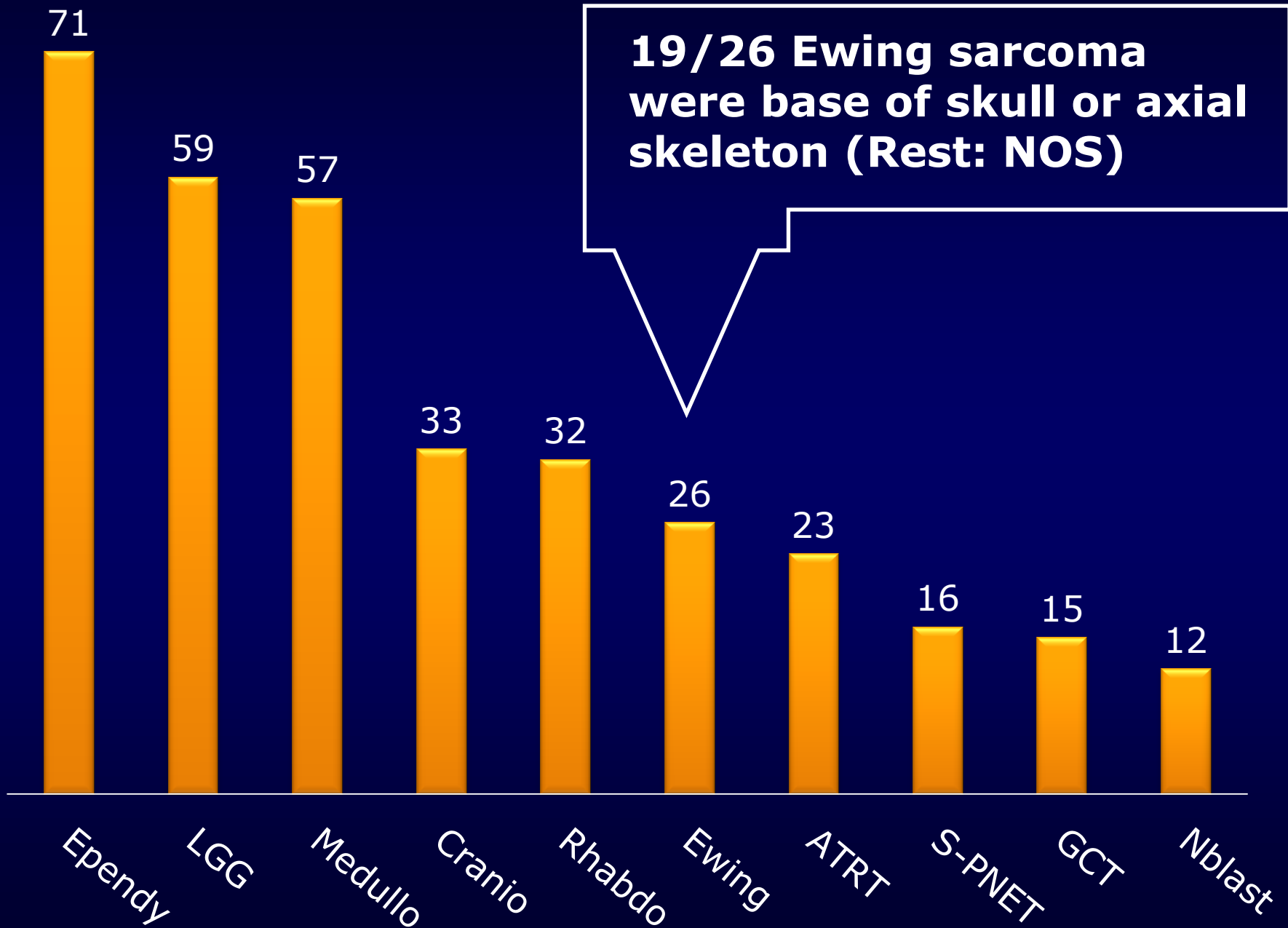


Patient Age

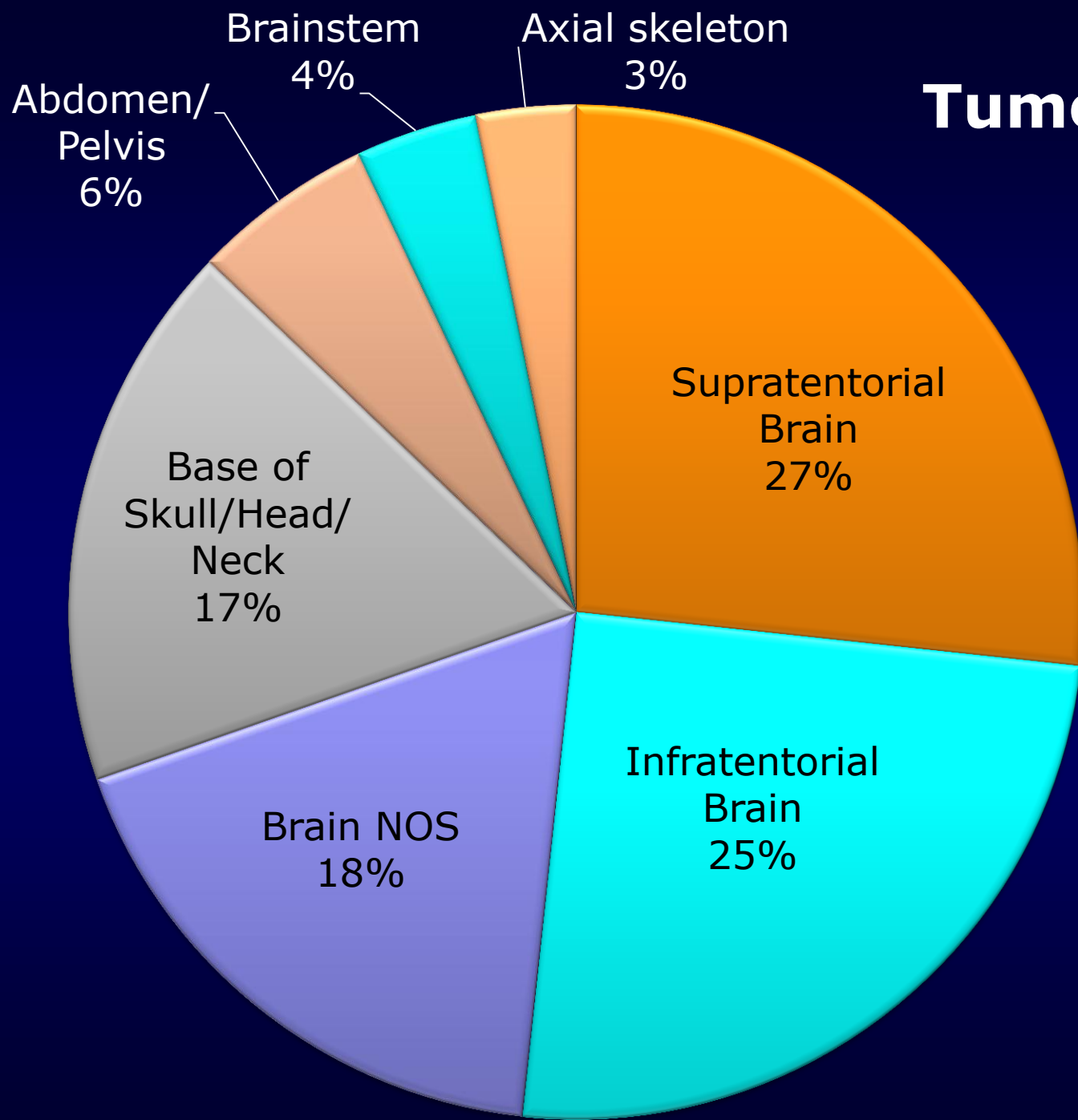
# 10 Most Common Tumor Types







# Tumor Site



# Limitations

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- Self-reported survey
  - No external validation
- Tumor stage and subsite not reported
  - Did not consistently have full detail on histology, site (“NOS”)
  - ICD-9 code not always specific or reliable
- Do not confuse “patterns of care” with “best indications”

# Conclusion

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- In 2010, all operating proton centers were treating children
- Wide variety of diagnoses treated, but young patients with CNS tumors and trunk/axial sarcomas most common
- Multidisciplinary team is important
  - 3/6 top tumors require concurrent chemotherapy
  - 50% of patients require anesthesia support