

Update on Proton Therapy Center – Houston

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Treatment Schedule

- **May 4, 2006:** Treatments began on Gantry #1
- **June 22, 2006:** Treatments began on the large-field fixed beam line.
- **September 18, 2006:** Treatments began on Gantry #2.
- **1st Quarter 2007:** Treatments will begin on Gantry #3 using the spot beam scanning nozzle.
- **May 2007:** Treatments will begin on the eye beam line.

Patients Under Treatment

October 9, 2007

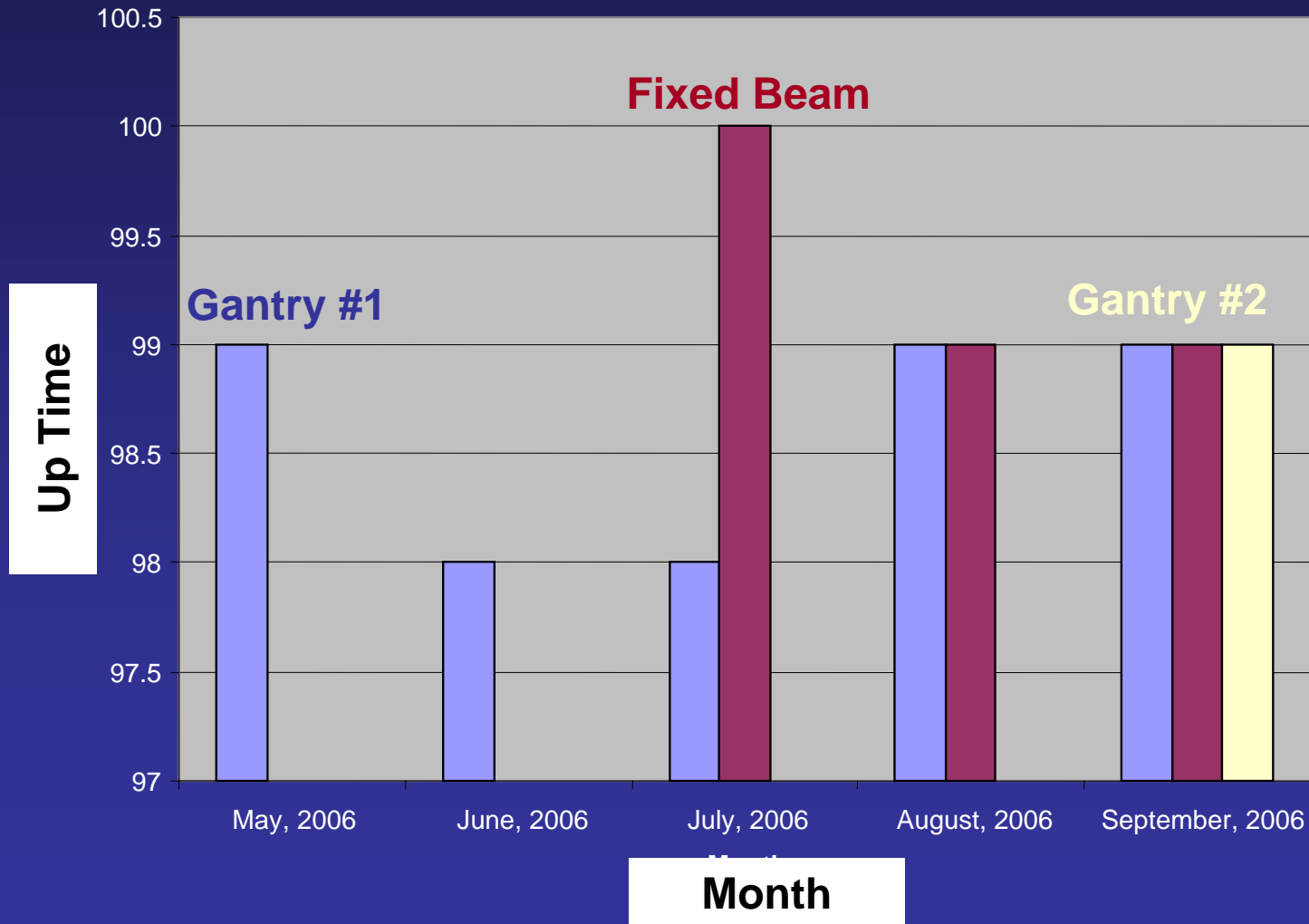
- **Gantry #1: 12 patients**
- **Gantry #2: 13 patients**
- **Fixed Beam: 18 patients**

43 Total Patients Under Treatment

Up Time

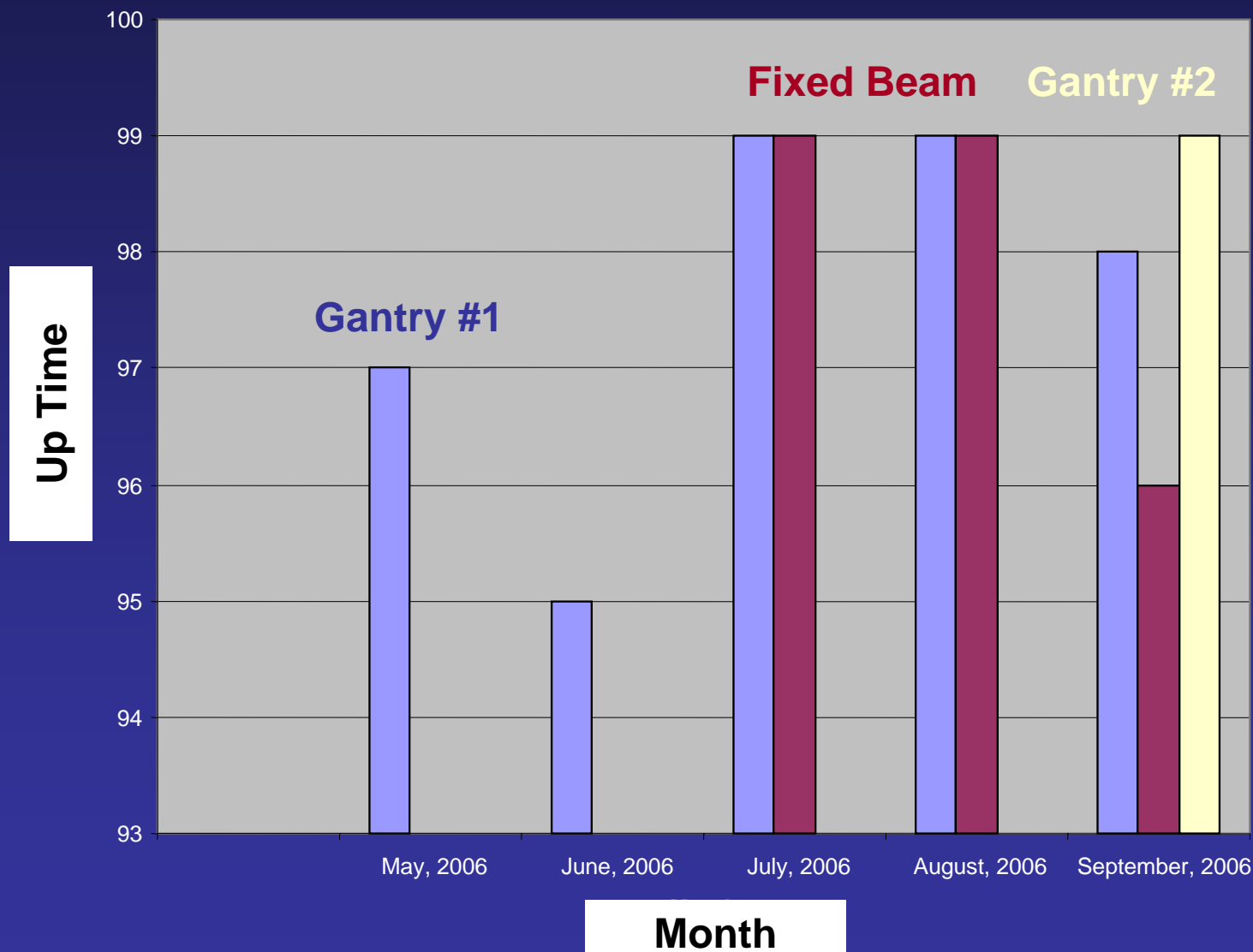
The percentage of scheduled time (nominally 8 am to 6 pm) that is available for treatment or clinical activity. Infrequent periods of short duration are not (currently) counted against Up Time.

Monthly Hitachi Equipment Up Time Summary

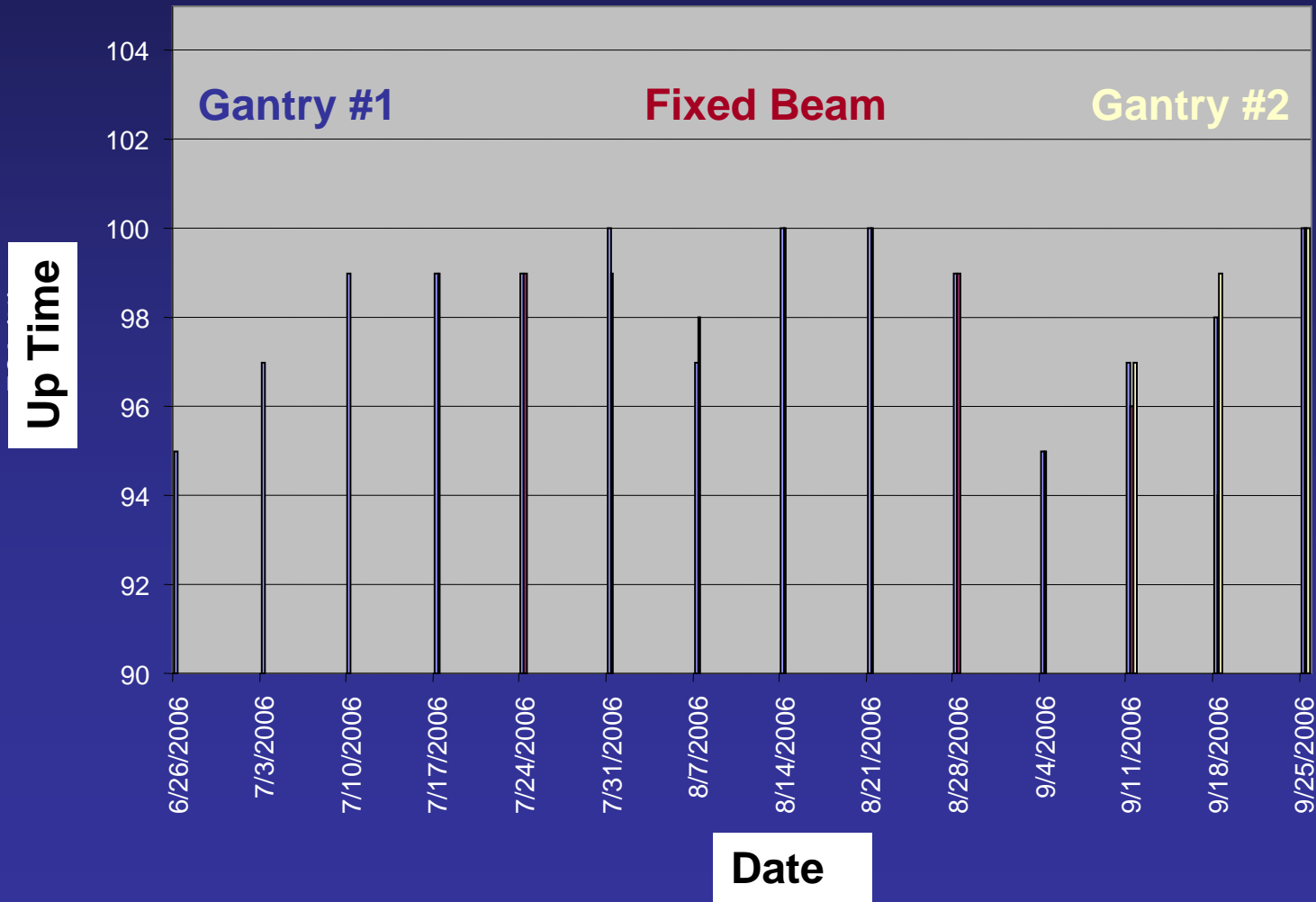


Monthly Overall* Up Time Summary

*Includes Operator Error, Other Vendors, Power Failures, etc.



3 Month Weekly Total Up Time Summary



5 - Month Average of Hitachi Equipment Up Time

First Gantry: 98.6%

Fixed Beam Room: 99.3 %

Second Gantry: 99 %

Overall: 99%

5 - Month Average of Overall Up Time*

First Gantry: 97.6%

Fixed Beam: 98%

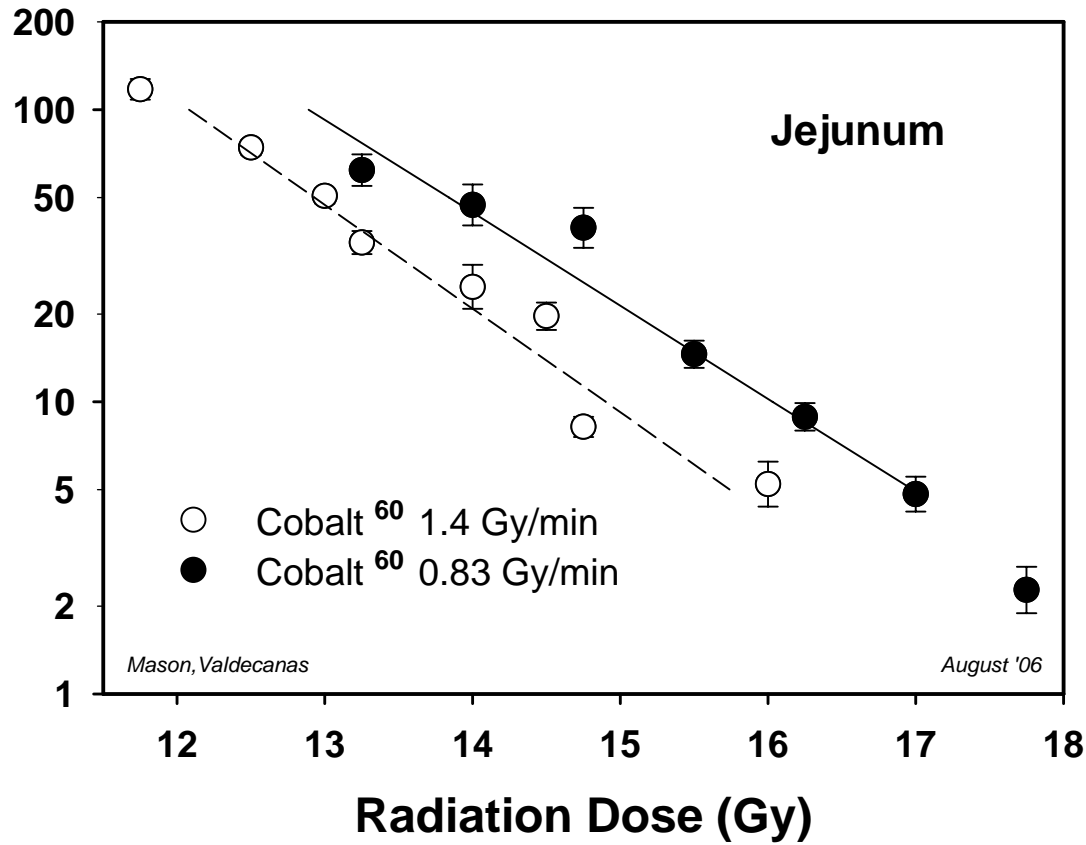
Second Gantry: 99%

Overall: 97.8%

*** Includes Operator Error, Other Vendors, Power Failures, etc.**

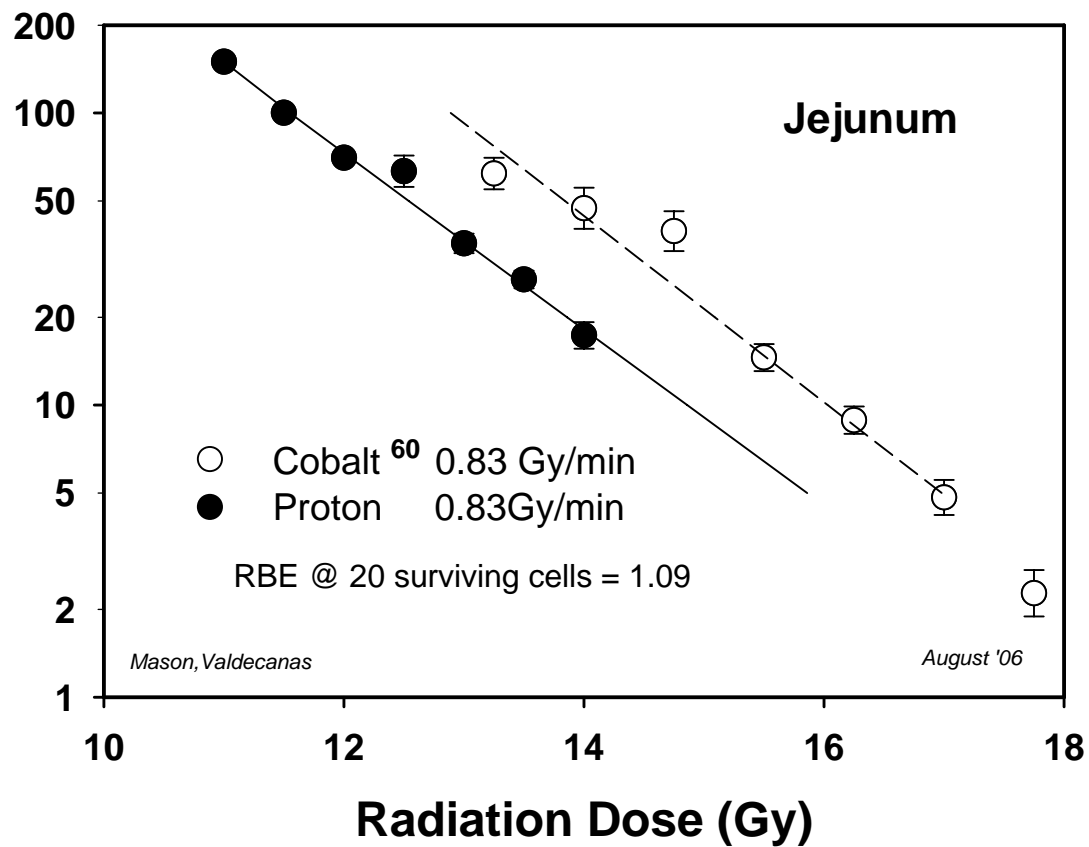
Cobalt: 1.4 Gy/min vs 0.83 Gy/min

Surviving Cells/Circumference Jejunum



Cobalt 0.83 Gy/min vs Proton 0.83 Gy/min

Surviving Cells/Circumference Jejunum



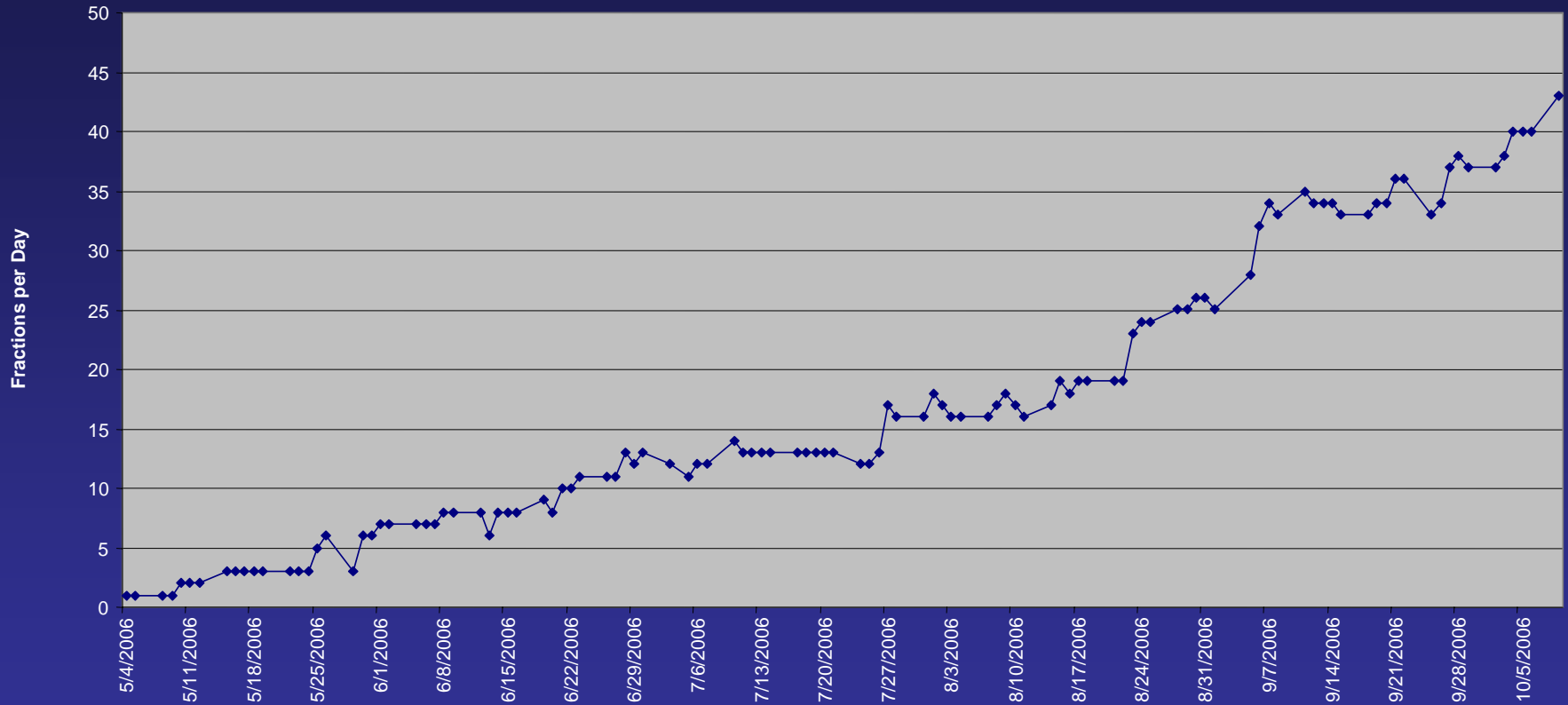
Jejunum

ISOEFFECTIVE DOSES

No. Surviving Cells	Cobalt 0.83 Gy/min	Proton 0.83 Gy/min	RBE
100	1289	1155	1.12
50	1384	1254	1.10
20	1509	1386	1.09
10	1603	1486	1.08
5	1698	1586	1.07

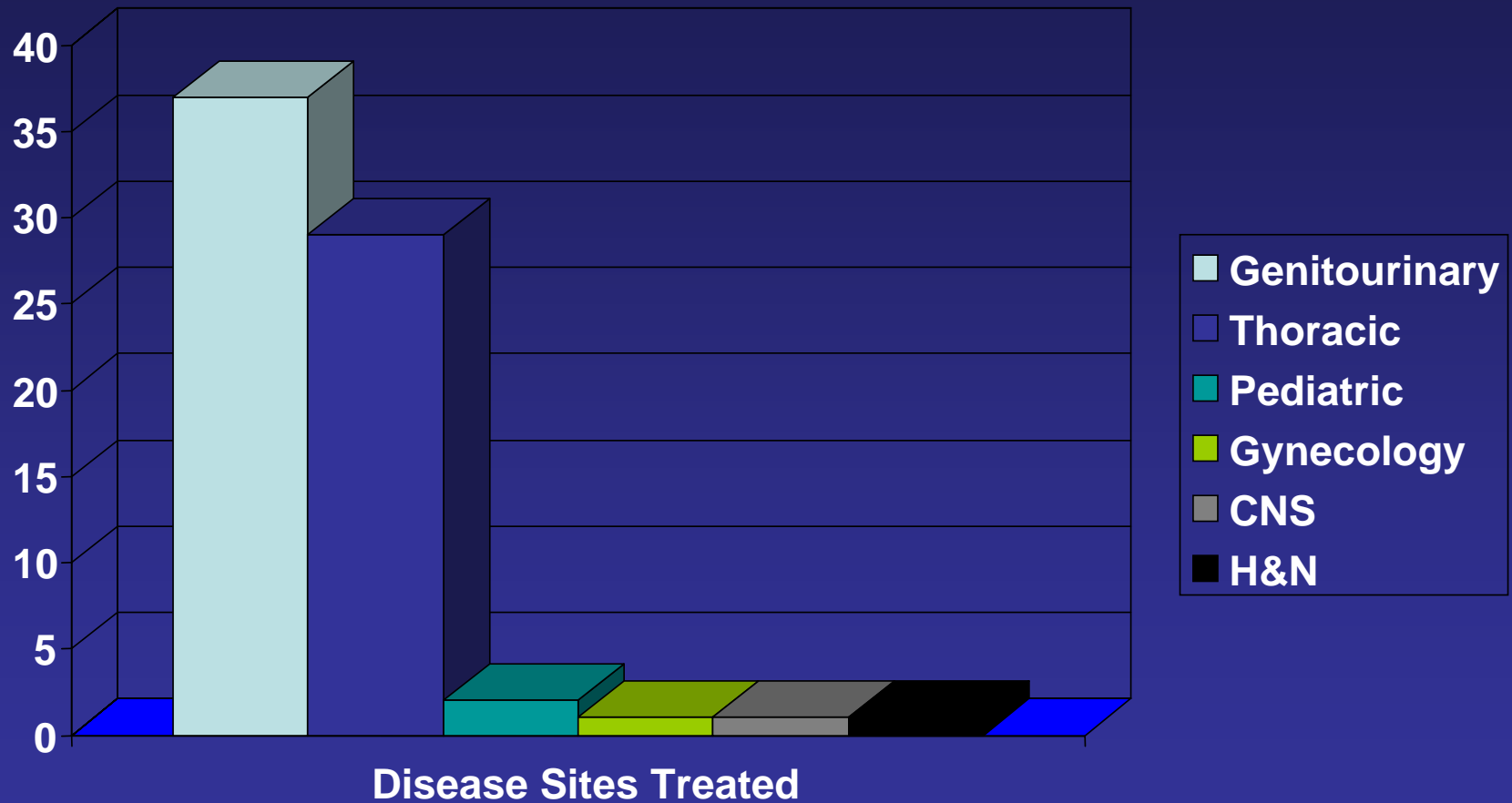
The Proton Therapy Center: Number of Patients Per Day

May 4, 2006 to October 9, 2006 Operational Experience



The M. D. Anderson Proton Therapy Center

Disease Sites Treated (May 4th to October 9th 2006)



Physicians treating patients at PTC

One third of the 45 faculty of the Department
of Radiation Oncology of the M. D.
Anderson Cancer Center
are treating patients at the PTC with the
usual specialization by disease site

Clinical Protocols for Proton Therapy

Active (enrolling patients)

- GU
 - Thoracic (2)
- Pediatric – normal tissue
 - Adult – normal tissue

IRB approved (16)

Draft (10)

Concept (5)

Maintaining Quality Standards - Proton Planning Clinic

- A multidisciplinary and multi-sectional approach to radiation therapy treatment planning and administration is used to provide peer review of each patient treated in the proton center.
- It stresses physician interaction and sharing of experiences, all of which is focused on providing the best possible care for the patient. This also provides a venue for education and learning.
- Case presentations are codified with resultant data being mined monthly to assess practice trends and directions.

Forward Clinical Outlook

- Broaden range of clinical presentations to be treated, with increased capability of technology
 - Pediatrics
 - CNS
 - Head and Neck
 - Eye
 - Rectum
 - Liver
 - Soft tissue sarcoma
 - Esophagus

The M. D. Anderson Proton Therapy Center

