CONDITIONED RECURRENCE-FREE SURVIVAL FOLLOWING GROSS TOTAL RESECTION OF NON-FUNCTIONING PITUITARY ADENOMAS

Jesse McClure, MD, PharmD, PhD

CONTRIBUTORS

- Ajay Chatrath, MD, PhD
- Trae Robison, MD
- John Jane Jr., MD

DISCLOSURES

- Neither myself nor any contributors to this project have any financial interests, stakes, or disclosures related to this research and its subsequent publication

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OVERARCHING QUESTION(S)

- For patients that have chemically and histologically non-functioning pituitary adenomas (NFPA) that achieve gross total resection (GTR), how often and over what time do recurrences occur?

- Is there a time where recurrence is less likely and we can follow patients less frequently post-op?

PATIENT POPULATION

- 148 patients
- Between 09/2004 and 01/2018
- At least one CTH or MRI Brain/Pit 12+ mos. after
- Excluded with STR or functional Pituitary Adeno

DEFINITIONS

- GTR vs STR defined intra-operatively + imaging interpretation at 1-3 month f/u
- Tumor functionality defined by path + exam/labs
- Recurrence defined by radiographic + clinical interpretation

PATIENT DEMOGRAPHICS

	All Patients	Recurrence	Recurrence-Free	p-value
Total	148	12 (8.11)	136 (91.9)	
Median Age (Yrs.)	57 [25-83]	55 [25-68]	57 [28-83]	0.2090
Male	73 (49.3)	4 (33.3)	69 (50.7)	0.3678
Median F/U (Mos.)	90 [14-217]	142 [83-217]	87 [14-201]	<0.0001

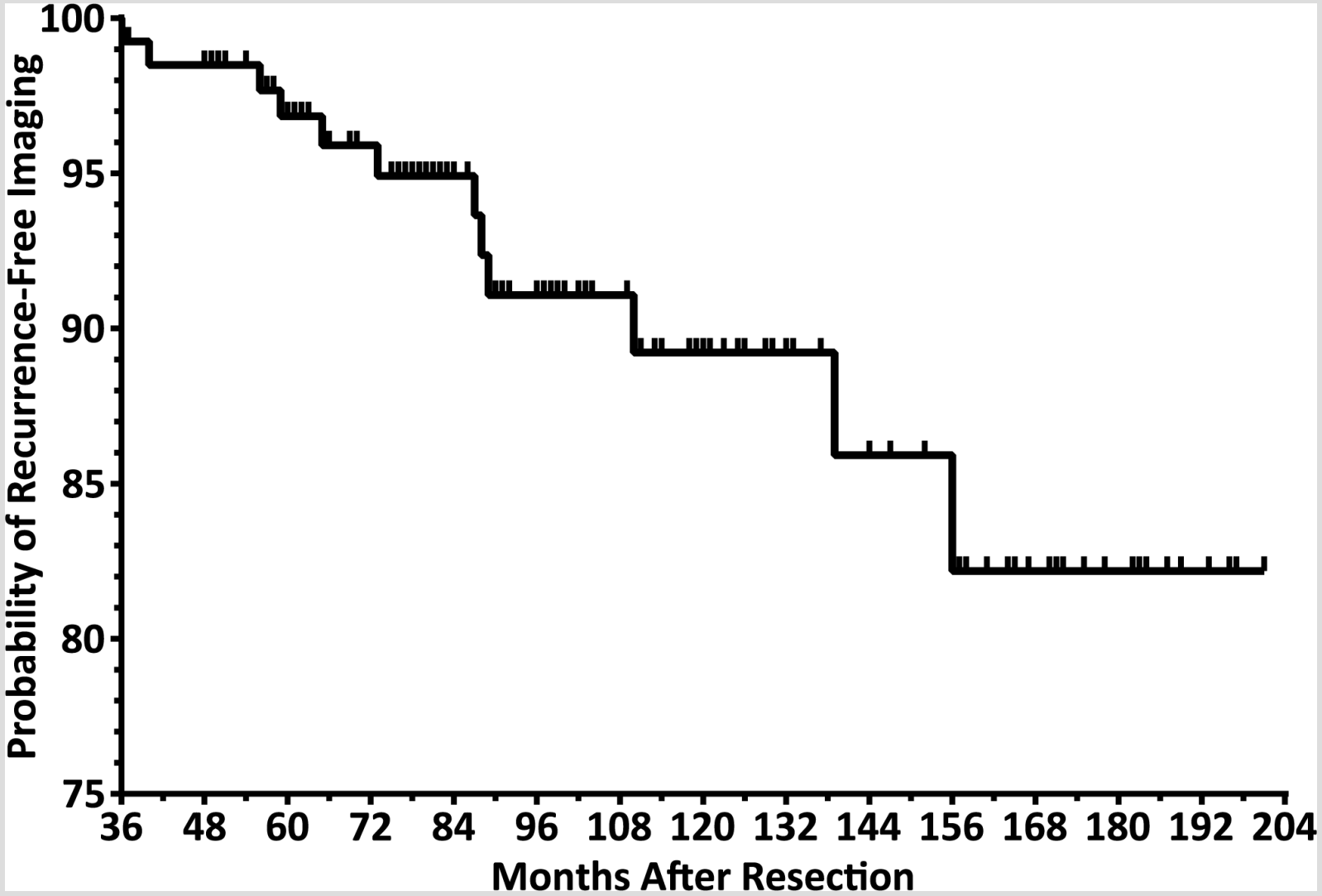
TUMOR CHARACTERISTICS

	All Patients	Recurrence	Recurrence-Free	p-value
Tumor Volume (cm^3)	3076 [168-25230]	8303 [2052-20073]	3040 [168-25230]	0.0003
Knosp Grade				
0	24 (16.2)	1 (8.33)	23 (16.9)	0.6912
1	58 (39.2)	3 (25.0)	55 (40.4)	0.3670
2	46 (31.1)	6 (50.0)	40 (29.4)	0.1915
3	20 (13.5)	2 (16.7)	18 (13.2)	0.6663
4	0 (0)	0 (0)	0 (0)	
0-2	128 (86.5)	10 (83.3)	118 (86.8)	0.6663
3-4	20 (13.5)	2 (16.7)	18 (13.2)	0.6663
WHO Tumor Type				
Gonadotrophic	85 (57.4)	7 (58.3)	78 (57.3)	>0.9999
Corticotrophic	34 (23.0)	5 (41.7)	29 (21.3)	0.1473
Null-Cell	15 (11.0)	0 (0)	15 (11.0)	0.6120

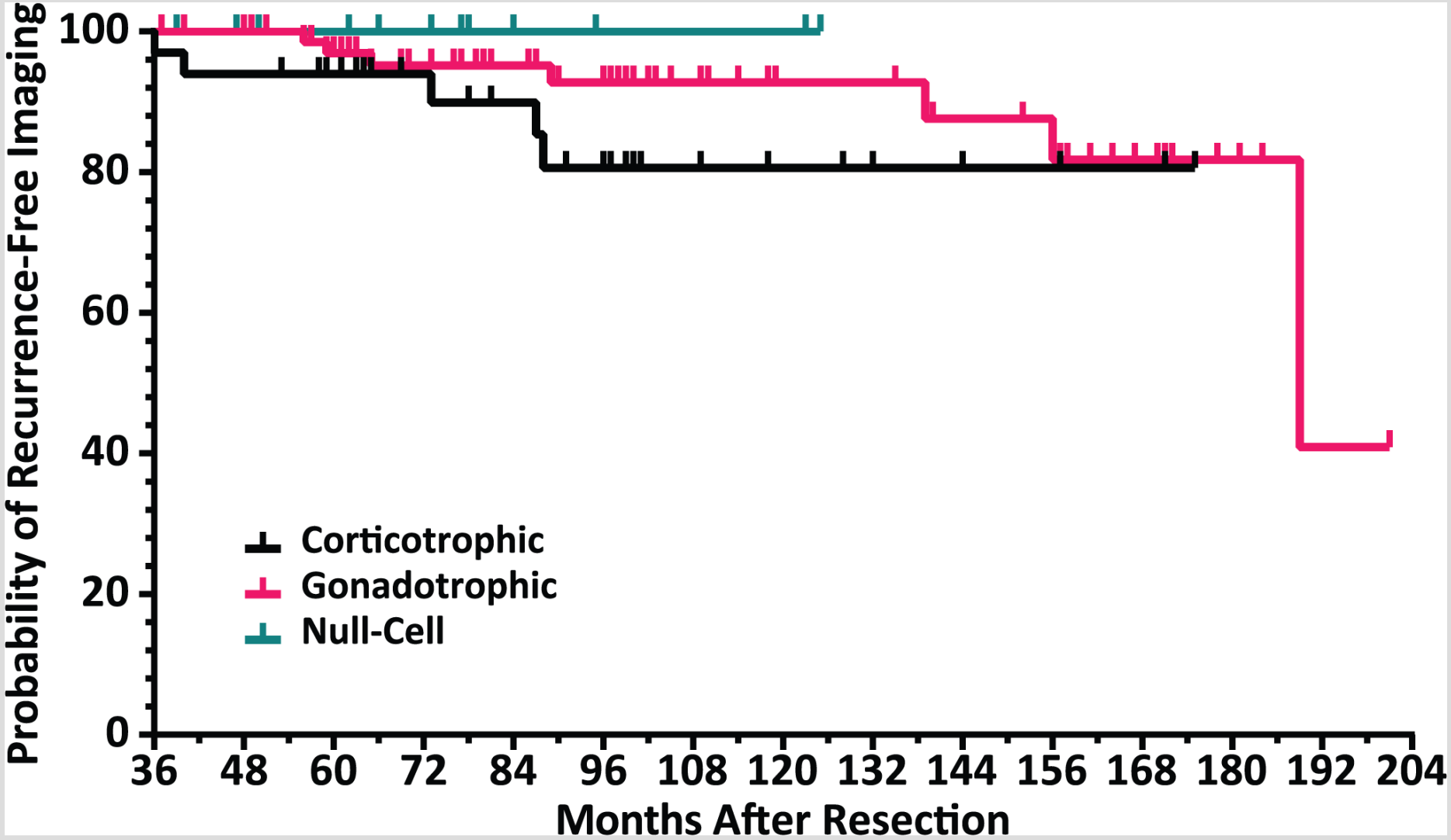
OVERARCHING QUESTION(S)

- How often and when do recurrences occur?
  - ~ 10% of our population had a recurrence
  - Timing is best determined via Kaplan-Meier

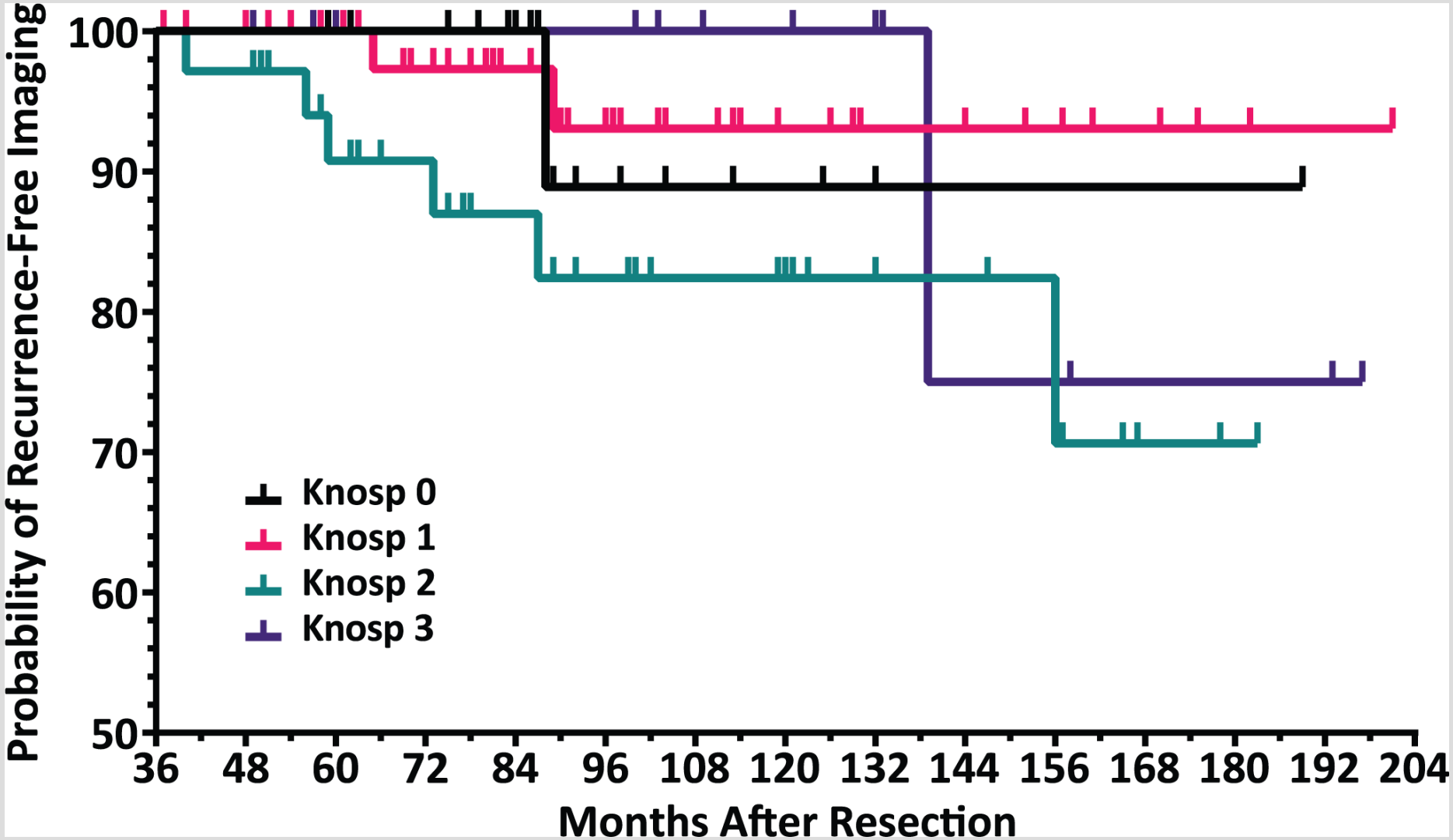
KAPLAN-MEIER ANALYSIS



KAPLAN-MEIER ANALYSIS BY TYPE



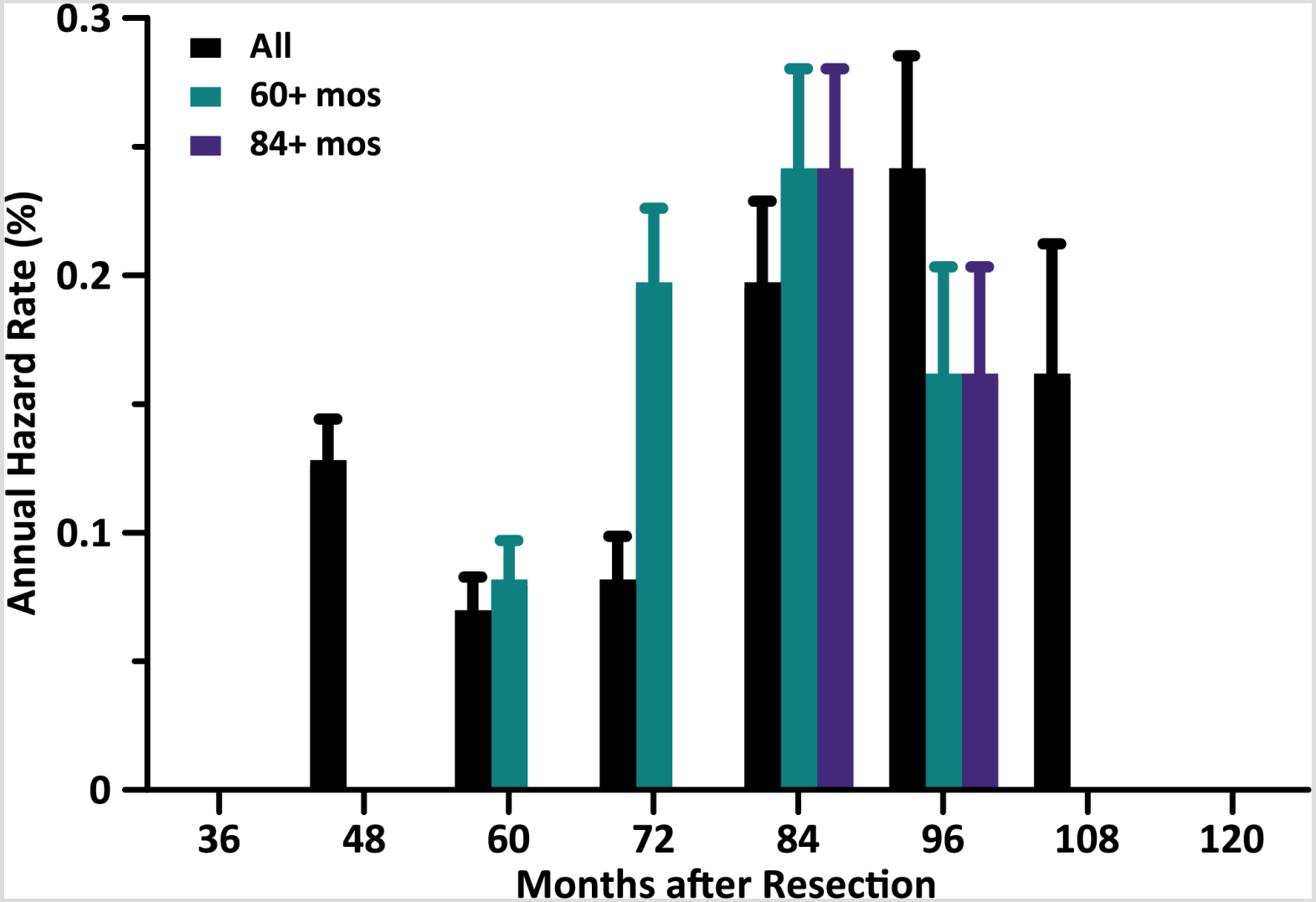
KAPLAN-MEIER ANALYSIS BY KNOSP



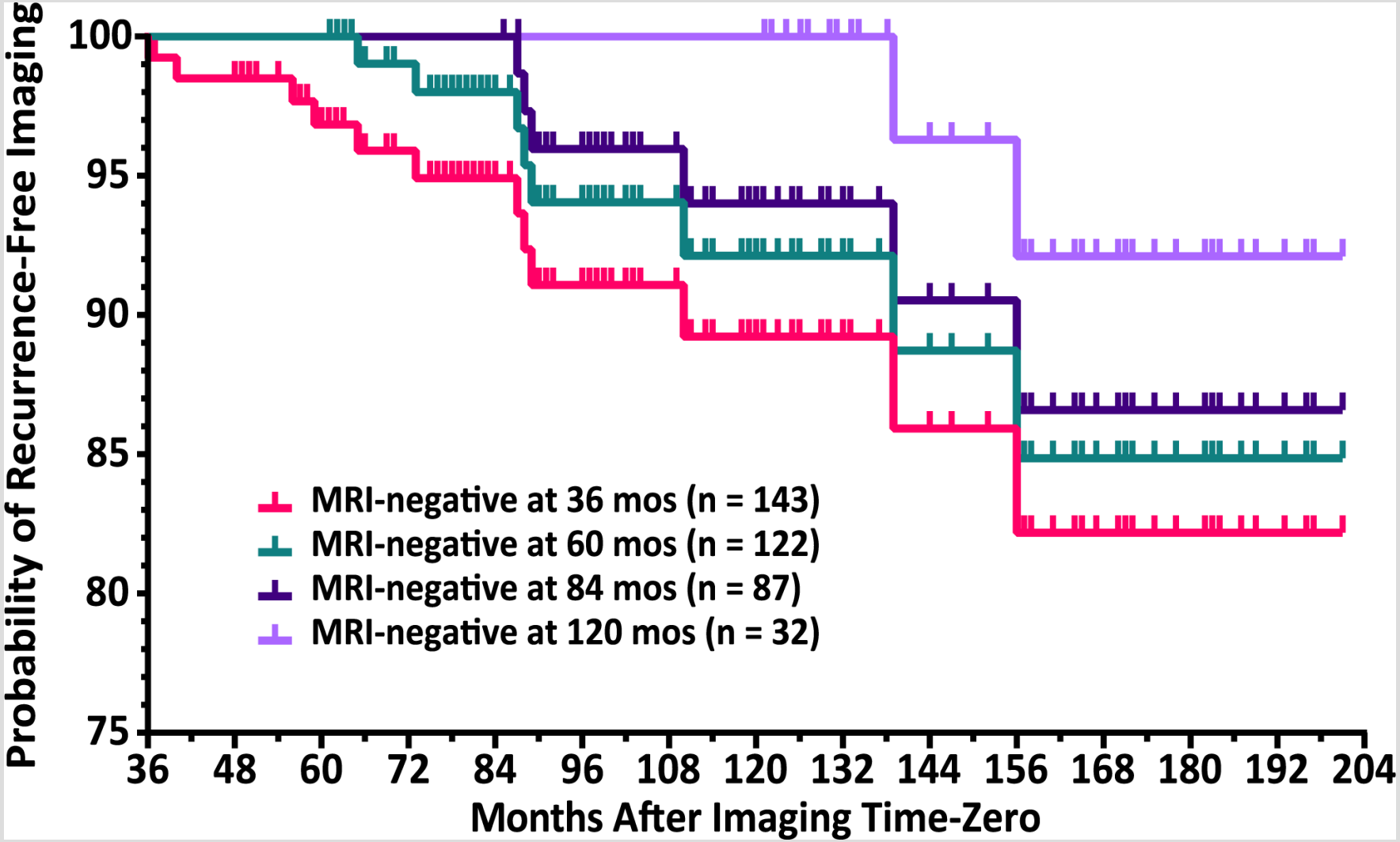
OVERARCHING QUESTION(S)

- How often and when do recurrences occur?
  - ~10%, at least 3 years out, as far as 13 years out
- Is there a time where recurrence is less likely and we can follow patients less frequently post-op?
  - This will require Annual Hazard Rates

ANNUAL HAZARD RATES



CONDITIONED KAPLAN-MEIER



OVERARCHING QUESTION(S)

- How often and when do recurrences occur?
  - ~10%, at least 3 years out, as far as 13 years out
- Is there a time where recurrence is less likely and we can follow patients less frequently post-op?
  - Patients require at least 10 years of f/u, likely lifetime

HANDLING RECURRENCES

Time to Recurrence (mos)	Age at time of Recurrence	Post-Recurrence Treatment
40	45	GKRS
110	74	GKRS
139	51	GKRS
156	75	Conservative
87	61	GKRS
36	60	GKRS
59	60	GKRS
73	72	GKRS
65	36	GKRS
88	33	GKRS
89	75	Conservative
56	57	GKRS

CONCLUSIONS

- Even after GTR, NFPA can recur; although < 10%
- Recurrences happen consistently over time
- Recurrences can be treated conservatively
- Follow up likely has to be lifelong; at least 10 years

WEAKNESSES

- Non-uniform follow-up; floor recurrence values
- Pre-op imaging uniform; post-op imaging varied
- Recurrences too rare to perform multivariate analysis

THANK YOU FOR YOUR TIME