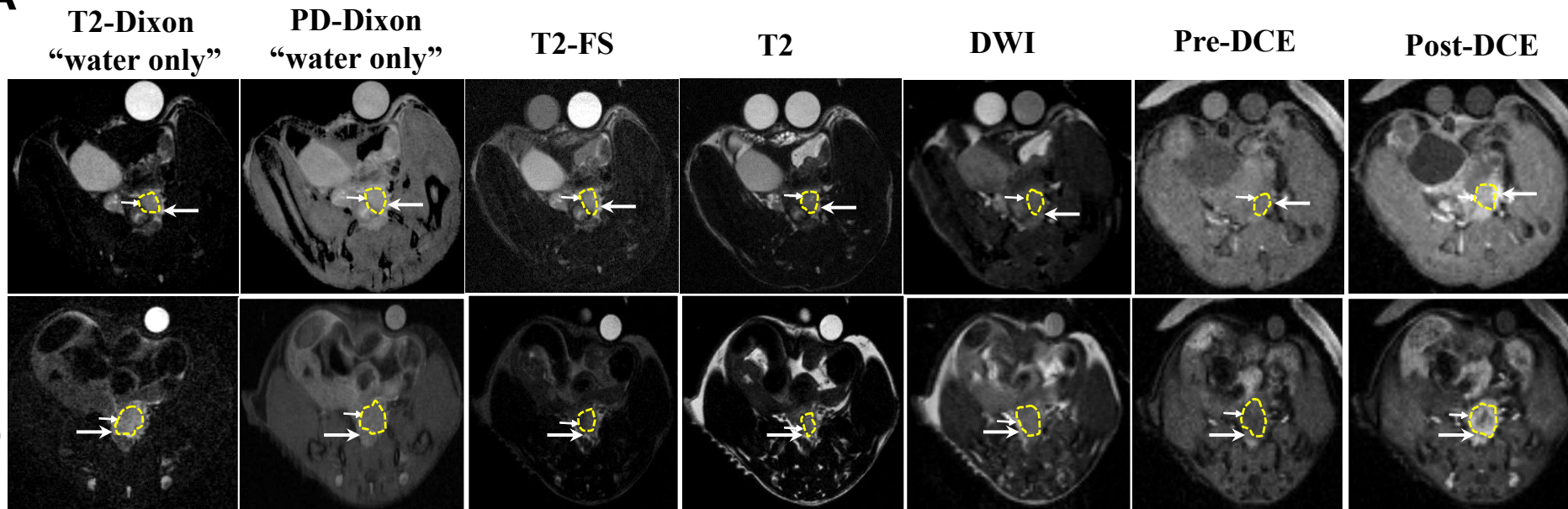


Supplementary Fig 1

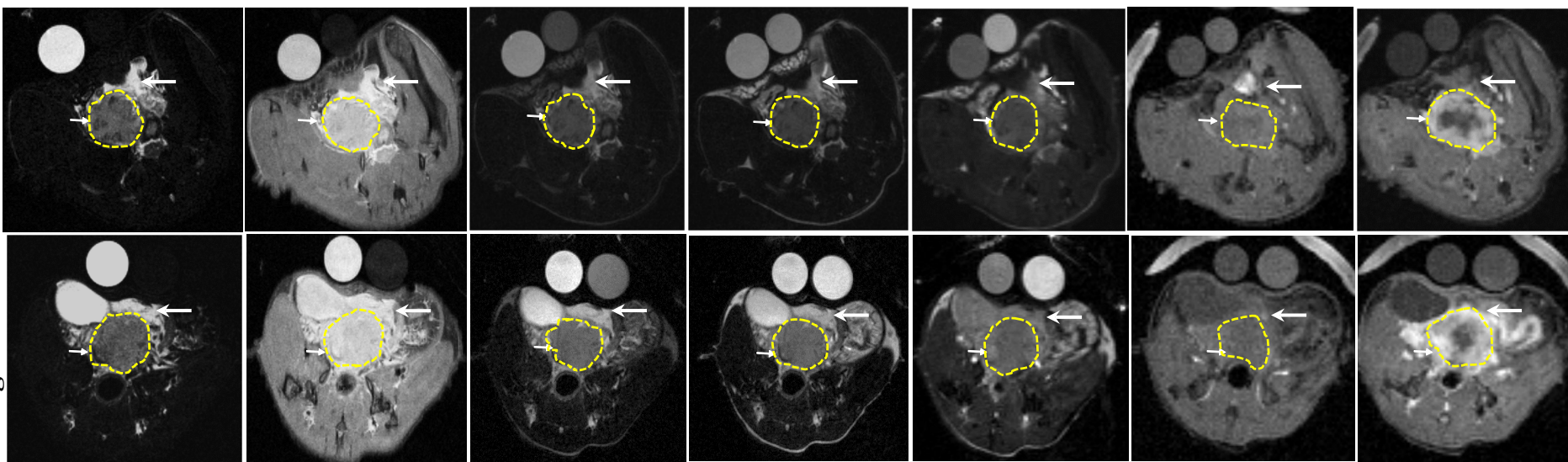
A

Young Nude mice
Old Nude mice



B

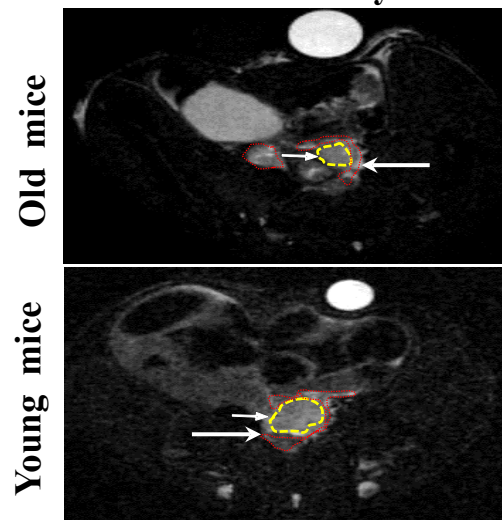
Young Nude mice
Old Nude mice



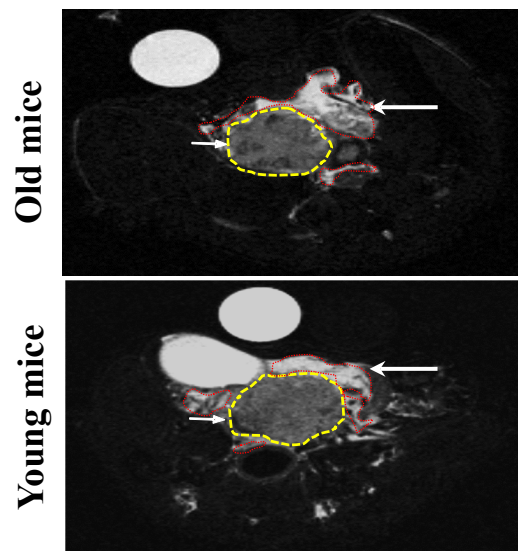
Supplementary Fig 2

1A

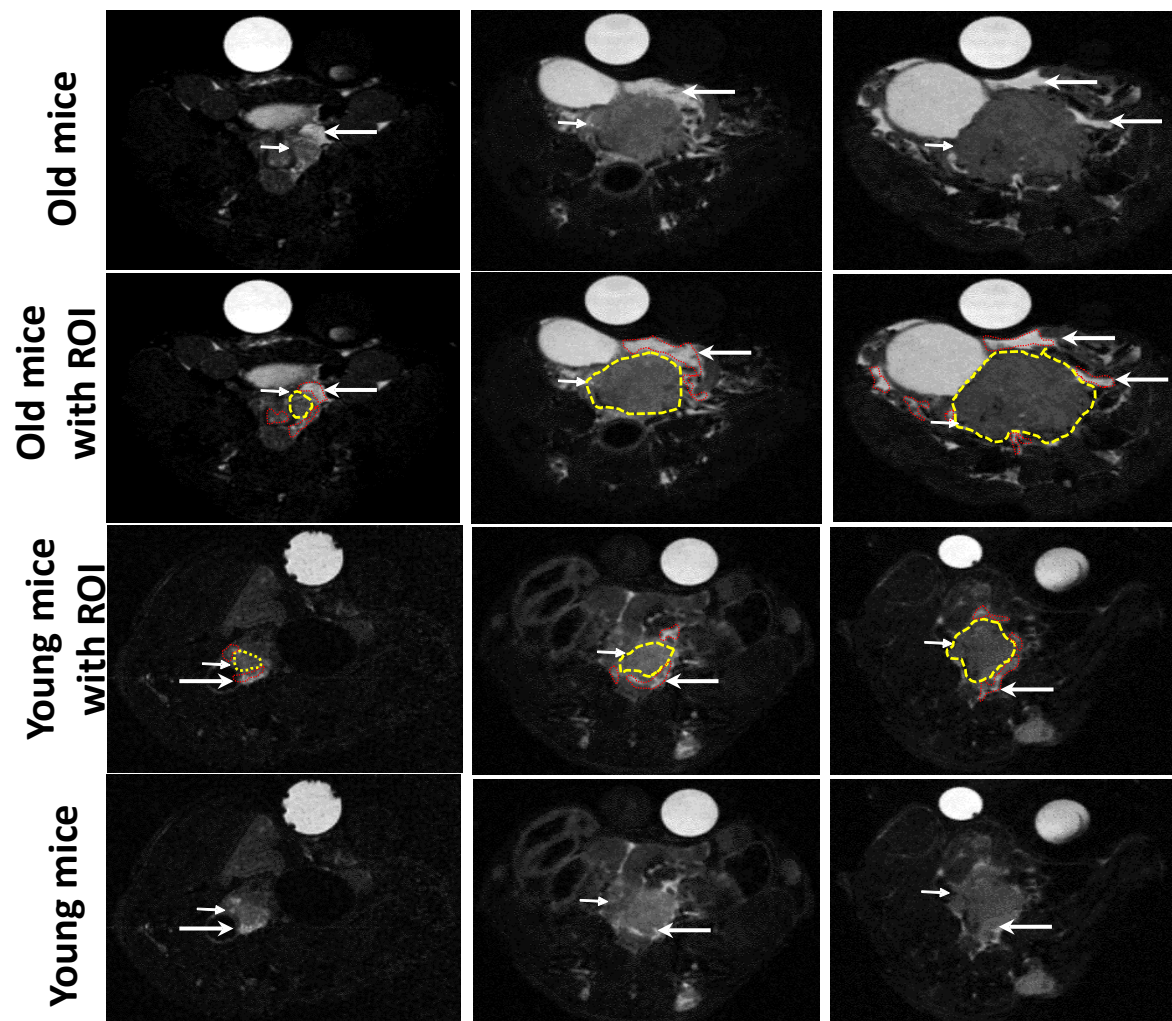
T2-Dixon
“water only”



1B



4C



Supplementary Data Table for Table 1 Young mice. Comparison of overall best MR sequence to detect mouse prostate cancer visualization in young or old nude mice at 7T. (Summary of pairwise comparisons between modalities by endpoint based on linear mixed model estimates.)

Endpoint	Comparison	Estimated Mean Difference	Adjusted 95% Lower	Adjusted 95% Upper	Adjusted P-value
Conspicuity Rank	DIX-DWI	-2.35	-3.61	-1.10	<.0001
	DIX-FSPGR-DCE w/o contrast	-3.17	-4.42	-1.91	<.0001
	DIX-FSPGR-DCE with contrast	-2.13	-3.39	-0.88	<.0001
	DIX-PD	-2.39	-3.69	-1.09	<.0001
	DIX-T2	-1.18	-2.41	0.06	0.0746
	DIX-T2FS	-1.09	-2.33	0.15	0.1263
	DWI-FSPGR-DCE w/o contrast	-0.81	-2.09	0.46	0.4859
	DWI-FSPGR-DCE with contrast	0.22	-1.06	1.50	0.9987
	DWI-PD	-0.04	-1.36	1.29	1
	DWI-T2	1.18	-0.08	2.43	0.0835
	DWI-T2FS	1.26	0.01	2.52	0.0477
	FSPGR-DCE w/o contrast-FSPGR-DCE with contrast	1.03	-0.25	2.31	0.2015
	FSPGR-DCE w/o contrast-PD	0.78	-0.54	2.10	0.5831
	FSPGR-DCE w/o contrast-T2	1.99	0.73	3.25	<.0001
	FSPGR-DCE w/o contrast-T2FS	2.08	0.82	3.33	<.0001
	FSPGR-DCE with contrast-PD	-0.25	-1.58	1.07	0.9975
	FSPGR-DCE with contrast-T2	0.96	-0.30	2.22	0.2649
	FSPGR-DCE with contrast-T2FS	1.05	-0.21	2.30	0.1733
	PD-T2	1.21	-0.09	2.52	0.0868
	PD-T2FS	1.30	0.00	2.60	0.0508
	T2-T2FS	0.09	-1.15	1.33	1

Supplementary Data Table for Table 1 Old mice. Comparison of overall best MR sequence to detect mouse prostate cancer visualization in young or old nude mice at 7T. (Summary of pairwise comparisons between modalities by endpoint based on linear mixed model estimates.)

Endpoint	Comparison	Estimated Mean Difference	Adjusted 95% Lower	Adjusted 95% Upper	Adjusted P-value
Conspicuity Rank	DIX-DWI	-2.17	-3.42	-0.93	<.0001
	DIX-FSPGR-DCE w/o contrast	-3.30	-4.54	-2.05	<.0001
	DIX-FSPGR-DCE with contrast	-2.08	-3.32	-0.83	<.0001
	DIX-PD	-2.36	-3.60	-1.12	<.0001
	DIX-T2	-0.85	-2.08	0.37	0.3732
	DIX-T2FS	-0.79	-2.02	0.43	0.4635
	DWI-FSPGR-DCE w/o contrast	-1.13	-2.39	0.14	0.1162
	DWI-FSPGR-DCE with contrast	0.09	-1.17	1.36	1
	DWI-PD	-0.19	-1.45	1.08	0.9994
	DWI-T2	1.32	0.08	2.56	0.0297
	DWI-T2FS	1.38	0.13	2.62	0.0193
	FSPGR-DCE w/o contrast-FSPGR-DCE with contrast	1.22	-0.04	2.48	0.0665
	FSPGR-DCE w/o contrast-PD	0.94	-0.33	2.20	0.2949
	FSPGR-DCE w/o contrast-T2	2.44	1.20	3.69	<.0001
	FSPGR-DCE w/o contrast-T2FS	2.50	1.26	3.75	<.0001
	FSPGR-DCE with contrast-PD	-0.28	-1.54	0.98	0.9944
	FSPGR-DCE with contrast-T2	1.23	-0.02	2.47	0.0564
	FSPGR-DCE with contrast-T2FS	1.28	0.04	2.53	0.038
	PD-T2	1.51	0.26	2.75	0.007
	PD-T2FS	1.57	0.32	2.81	0.0043
	T2-T2FS	0.06	-1.17	1.28	1

Supplementary Data Table for Table 2: Comparison of prostate cancer conspicuity, margin delineation, and tumor to background contrast in young or old nude mice at 7T. (Summary of linear mixed model estimated mean score of modalities by endpoint.)

Endpoint	Modality	Estimated Mean	95% LCL	95% UCL
Conspicuity Rank	FSPGR-DCE w/o contrast	5.44	5.02	5.85
	PD	4.58	4.15	5.01
	DWI	4.47	4.05	4.89
	FSPGR-DCE with contrast	4.31	3.90	4.73
	T2	3.22	2.82	3.62
	T2FS	3.15	2.74	3.55
	DIX	2.21	1.80	2.61
Contrast Rank	FSPGR-DCE w/o contrast	5.52	5.12	5.91
	PD	4.66	4.25	5.08
	DWI	4.53	4.13	4.93
	FSPGR-DCE with contrast	4.47	4.07	4.87
	T2	3.19	2.81	3.58
	T2FS	3.00	2.61	3.39
	DIX	2.07	1.69	2.46
Margin Delineation Rank	FSPGR-DCE w/o contrast	6.47	6.21	6.73
	PD	4.95	4.68	5.21
	DWI	4.92	4.66	5.18
	FSPGR-DCE with contrast	4.70	4.45	4.96
	T2	2.54	2.29	2.79
	T2FS	2.53	2.28	2.78
	DIX	1.41	1.16	1.66

Supplementary Table 3: Conspicuity, Contrast and Margin Delineation in Young vs Old mice.

Old versus Young Mice. Summary of comparison between age groups by endpoint based on linear mixed model estimates. None of the endpoint show significant difference between old and young groups.					
Endpoint	Comparison	Estimated Mean Difference	95% Lower	5% Upper	P-value
Conspicuity Rank	Old-Young	0.007	-0.305	0.320	0.96
Contrast Rank	Old-Young	0.054	-0.244	0.352	0.72
Margin Delineation Rank	Old-Young	0.062	-0.131	0.255	0.53