

Supplementary Materials - Ewing Translocation Survey Results

Q1: You are seeing a patient who presented with a mass in the right lower extremity. Biopsy was performed. Histology demonstrated a small round blue cell sarcoma and immunohistochemical staining showed diffuse CD99 positive staining. Molecular tests were performed and variant fusion transcripts were confirmed. With each of the following variants, how do you classify the case? (Please note EWSR1 = EWS in the following text.)

Answered: 141 Skipped: 2

	EWING SARCOMA	"EWING-LIKE" SARCOMA	NOT A EWING SARCOMA	UNSURE	TOTAL
EWSR1-FLI1	95.74% 135	0.00% 0	0.00% 0	4.26% 6	141
EWSR1-ERG	78.83% 108	8.03% 11	0.73% 1	12.41% 17	137
EWSR1-FEV	60.00% 81	13.33% 18	0.00% 0	26.67% 36	135
EWSR1-ETV4(E1AF)	60.45% 81	16.42% 22	0.75% 1	22.39% 30	134
EWSR1-ETV1	61.19% 82	14.93% 20	0.75% 1	23.13% 31	134
FUS-ERG	39.71% 54	15.44% 21	8.09% 11	36.76% 50	136
FUS-FEV	36.84% 49	16.54% 22	7.52% 10	39.10% 52	133
EWSR1-NFATC2	25.93% 35	27.41% 37	7.41% 10	39.26% 53	135
EWSR1-SMARCA5	25.37% 34	26.87% 36	8.96% 12	38.81% 52	134
EWSR1-SP3	20.15% 27	29.85% 40	8.21% 11	41.79% 56	134
EWSR1-PATZ1(ZSG)	22.56% 30	25.56% 34	8.27% 11	43.61% 58	133
CIC-DUX4	0.74% 1	47.06% 64	27.21% 37	25.00% 34	136
BCOR-CCNB3	0.75% 1	45.52% 61	24.63% 33	29.10% 39	134
EWSR1-WT1	8.89% 12	11.85% 16	57.78% 78	21.48% 29	135

Q2: Would patients with the following tumors get Ewing therapy?

Answered: 140 Skipped: 3

	YES	NO	UNSURE	TOTAL
Ewing sarcoma	99.29% 139	0.00% 0	0.71% 1	140
Ewing-like sarcoma	90.58% 125	1.45% 2	7.97% 11	138
Desmoplastic small round cell tumor	38.41% 53	39.13% 54	22.46% 31	138

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Q3: Would you consider the patient with each of the following fusions eligible for a Ewing sarcoma clinical trial?

Answered: 126 Skipped: 17

	EWING TRIAL- PRIMARY ARM	EWING TRIAL- SEPARATE STRATA	EWING TRIAL- INELIGIBLE	UNSURE	TOTAL
EWSR1-FLI1	94.44% 119	0.00% 0	0.00% 0	5.56% 7	126
EWSR1-ERG	78.57% 99	5.56% 7	0.00% 0	15.87% 20	126
EWSR1-FEV	61.11% 77	10.32% 13	0.00% 0	28.57% 36	126
EWSR1-ETV4(E1AF)	58.73% 74	11.11% 14	0.00% 0	30.16% 38	126
EWSR1-ETV1	62.40% 78	9.60% 12	0.00% 0	28.00% 35	125
FUS-ERG	34.40% 43	13.60% 17	7.20% 9	44.80% 56	125
FUS-FEV	32.80% 41	14.40% 18	6.40% 8	46.40% 58	125
EWSR1-NFATC2	24.19% 30	24.19% 30	4.03% 5	47.58% 59	124
EWSR1-SMARCA5	20.63% 26	26.19% 33	4.76% 6	48.41% 61	126
EWSR1-SP3	19.05% 24	23.81% 30	5.56% 7	51.59% 65	126
EWSR1-PATZ1(ZSG)	20.97% 26	19.35% 24	7.26% 9	52.42% 65	124
CIC-DUX4	4.76% 6	40.48% 51	20.63% 26	34.13% 43	126
BCOR-CCNB3	4.00% 5	36.80% 46	23.20% 29	36.00% 45	125
EWSR1-WT1	5.60% 7	17.60% 22	44.00% 55	32.80% 41	125

Q4: Are break apart FISH tests for the following genes performed at your institution?

Answered: 121 Skipped: 22

	YES	NO	UNSURE	TOTAL
EWSR1	82.64% 100	9.92% 12	7.44% 9	121
FUS	36.67% 44	30.83% 37	32.50% 39	120
CIC	16.53% 20	47.93% 58	35.54% 43	121
BCOR	14.88% 18	49.59% 60	35.54% 43	121

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Q5: Please select the techniques for all tests that are currently performed at your institution to detect fusion gene status.

Answered: 114 Skipped: 29

	PERFORM TEST, UNSURE OF TECHNIQUE	PERFORM TWO COLOR FISH (FOR SPECIFIC FUSION)	PERFORM RT-PCR	PERFORM BOTH FISH AND RT-PCR	DO NOT PERFORM TEST	UNSURE OF WHETHER TEST IS PERFORMED OR NOT	TOTAL
EWSR1-FLI1	20.18% 23	15.79% 18	7.02% 8	21.05% 24	21.93% 25	14.04% 16	114
EWSR1-ERG	16.67% 19	12.28% 14	9.65% 11	13.16% 15	22.81% 26	25.44% 29	114
EWSR1-FEV	14.04% 16	12.28% 14	3.51% 4	5.26% 6	28.95% 33	35.96% 41	114
EWSR1-ETV4(E1AF)	12.39% 14	14.16% 16	1.77% 2	4.42% 5	28.32% 32	38.94% 44	113
EWSR1-ETV1	12.39% 14	14.16% 16	1.77% 2	5.31% 6	28.32% 32	38.05% 43	113
EWSR1-NFATC2	9.73% 11	7.96% 9	0.88% 1	3.54% 4	31.86% 36	46.02% 52	113
EWSR1-SMARCA5	10.62% 12	7.96% 9	0.88% 1	3.54% 4	31.86% 36	45.13% 51	113
EWSR1-SP3	10.62% 12	7.96% 9	0.88% 1	3.54% 4	30.97% 35	46.02% 52	113
EWSR1-PATZ1	10.71% 12	8.04% 9	0.89% 1	3.57% 4	32.14% 36	44.64% 50	112
EWSR1-WT1	14.29% 16	9.82% 11	3.57% 4	3.57% 4	30.36% 34	38.39% 43	112
FUS-ERG	6.25% 7	0.89% 1	3.57% 4	3.57% 4	34.82% 39	50.89% 57	112
FUS-FEV	6.25% 7	0.00% 0	3.57% 4	3.57% 4	34.82% 39	51.79% 58	112
CIC-DUX4	6.14% 7	2.63% 3	7.02% 8	2.63% 3	42.11% 48	39.47% 45	114
BCOR-CCNB3	6.25% 7	1.79% 2	7.14% 8	2.68% 3	41.96% 47	40.18% 45	112

Q6: Would you consider it necessary to request FISH testing for translocations for the diagnosis of Ewing sarcoma?

Answered: 121 Skipped: 22

	YES	NO	UNSURE	TOTAL
EWSR1	82.64% 100	9.92% 12	7.44% 9	121
FUS	36.67% 44	30.83% 37	32.50% 39	120
CIC	16.53% 20	47.93% 58	35.54% 43	121
BCOR	14.88% 18	49.59% 60	35.54% 43	121

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Q7: Would you consider it necessary to request further testing for specific fusion transcripts when EWSR1 break apart is confirmed by FISH?

Answered: 121 Skipped: 22

	NECESSARY	UNNECESSARY	UNSURE	TOTAL
Typical Ewing sarcoma morphology, CD99 positive	29.75% 36	61.16% 74	9.09% 11	121
Atypical Ewing sarcoma morphology or CD99 negative	76.86% 93	12.40% 15	10.74% 13	121

Q8: Would you consider it necessary to request further testing for specific fusion transcripts when EWSR1 break apart is negative or noninformative?

Answered: 121 Skipped: 22

	NECESSARY	UNNECESSARY	UNSURE	TOTAL
Typical Ewing sarcoma morphology, CD99 positive	80.17% 97	7.44% 9	12.40% 15	121
Atypical Ewing sarcoma morphology or CD99 negative	84.30% 102	4.13% 5	11.57% 14	121

Q9: What is your discipline?

Answered: 121 Skipped: 22

ANSWER CHOICES	RESPONSES
Pediatric oncologist with special interest in sarcoma	42.15% 51
Pediatric oncologist without special interest in sarcoma	33.06% 40
Surgical pathologist with special interest in sarcoma	16.53% 20
Surgical pathologist without special interest in sarcoma	0.83% 1
Other (please specify)	7.44% 9
TOTAL	121

Q10: Where do you currently practice medicine?

Answered: 121 Skipped: 22

ANSWER CHOICES	RESPONSES
Africa	0.00% 0
Asia	2.48% 3
Australia & New Zealand	1.65% 2
Europe	2.48% 3
North America	93.39% 113
South America	0.00% 0
TOTAL	121

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Q11: How many years are you from completion of medical training?

Answered: 121 Skipped: 22

ANSWER CHOICES	RESPONSES	
1 - 5 years	22.31%	27
6 - 10 years	29.75%	36
11 - 15 years	14.05%	17
> 15 years	33.88%	41
TOTAL		121

Q12: What type of practice setting is your institution?

Answered: 121 Skipped: 22

ANSWER CHOICES	RESPONSES	
Academic	90.08%	109
Private/community	9.92%	12
TOTAL		121

Q13: Approximately how many newly diagnosed bone and soft tissue sarcoma patients are treated at your institution each year?

Answered: 121 Skipped: 22

ANSWER CHOICES	RESPONSES	
0 - 10	29.75%	36
11-25	28.10%	34
26-50	16.53%	20
51-75	5.79%	7
76-100	1.65%	2
> 100	18.18%	22
TOTAL		121

Q14: Approximately what percentage of your time is spent on basic/translational bench research?

ANSWER CHOICES	RESPONSES	
0	50.41%	61
1-20%	19.01%	23
21-40%	4.96%	6
41-60%	10.74%	13
61-80%	11.57%	14
81-100%	3.31%	4
TOTAL		121