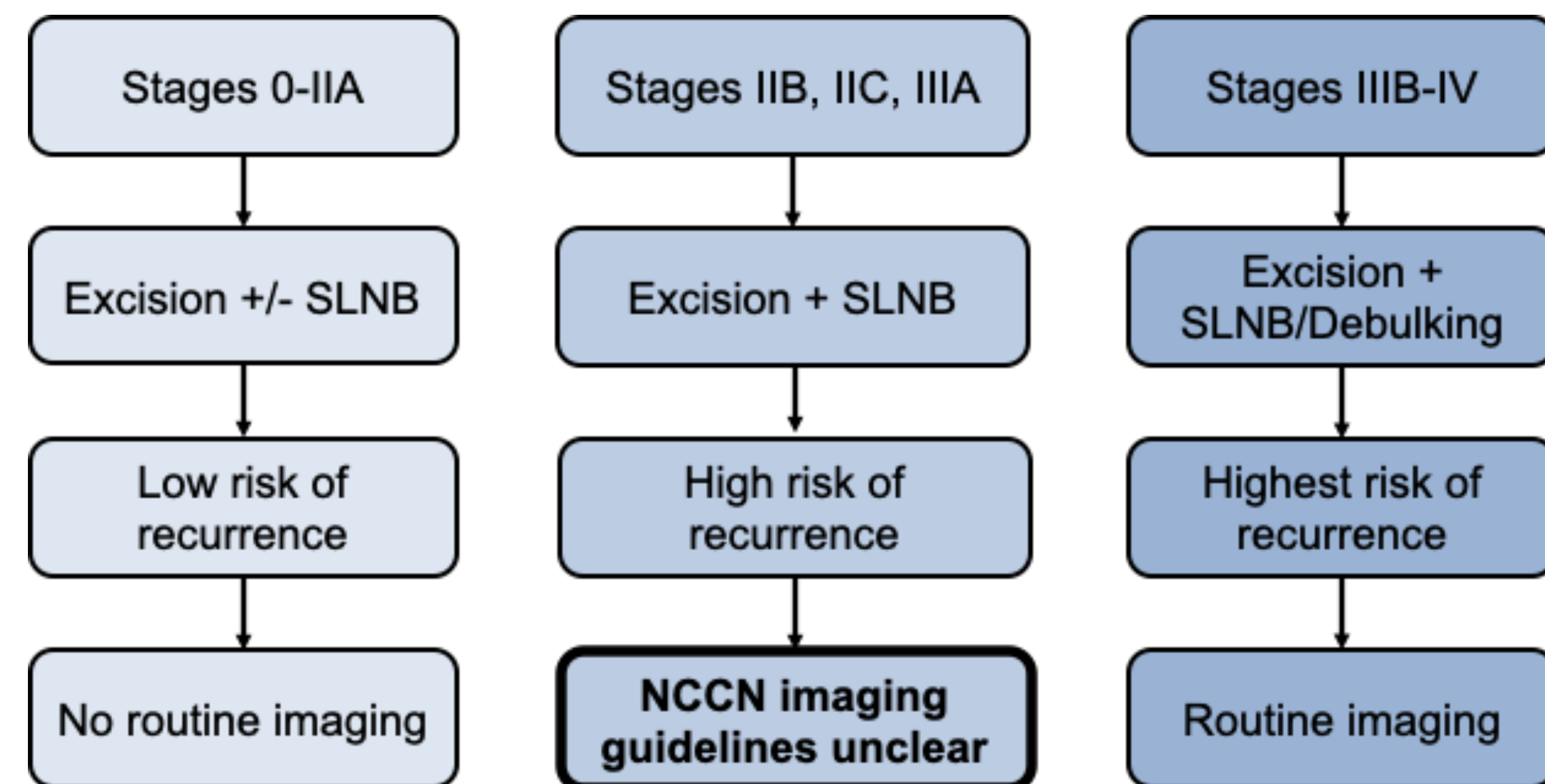


Routine PET/CT has low positive predictive value for detecting occult recurrence in asymptomatic patients with high-risk stage II/III melanoma

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BACKGROUND



OBJECTIVE: To determine the utility of ¹⁸F-FDG PET/CT for detecting asymptomatic recurrence of Stages IIB, IIC, and IIIA melanoma after primary surgical treatment.

METHODS

1. Retrospective cohort: N = 158 (56 IIB, 54 IIC, 48 IIIA)
2. Collected data on ¹⁸F-FDG PET/CT and recurrence
3. Measured yield and timing of imaging post-surgery

RESULTS

Indication for PET/CT

	# Scans	PPV, % (95% CI)
Routine	155	28.6 (9.5-47.6)
IIB	33	33.3 (0-66.7)
IIC	45	42.9 (14.3-85.7)
IIIA	77	12.5 (0-37.5)
Staging	138	11.1 (0-27.8)
Symptomatic	4	66.7 (0-100)
Clinical suspicion	47	44.8 (27.6-61.2)

Time Interval	# Scans	PPV, % (95% CI)
0-36 months	133	31.6 (10.5-52.6)
>36 months	22	0 (0-80.0*)

False Positives on PET/CT	# patients (%)
Benign/inflammatory focus	37 (74)
Benign finding needing further attention	2 (4)
Other malignancy	11 (22)
Total	50 (100)

CONCLUSION

- High false positive rate
- Low positive predictive value
- Additional work-up
- Other clinically relevant primary malignancies
- High-risk melanoma still needs follow-up → alternative surveillance imaging?
- Limitations: wide confidence intervals, possible selection bias, heterogeneous imaging patterns
- Next: cost-effectiveness analysis of routine PET/CT

COHORT CHARACTERISTICS

	Substage	IIB	IIC	IIIA	Total
Demographics	Mean Age at Diagnosis, yr (SD)	66.3 (15.2)	70.3 (14.9)	51.3 (14.7)	63.1 (16.9)
	Female, %	34	37	54	41
Location	Trunk (%)	20 (32)	23 (37)	19 (31)	62 (100)
	Upper Extremity (%)	10 (32)	10 (32)	11 (35)	31 (100)
	Lower Extremity (%)	11 (30)	13 (35)	13 (35)	37 (100)
	Head/Neck (%)	15 (54)	8 (29)	5 (18)	28 (100)
Melanoma Features	Median Breslow Depth, mm (IQR)	4.15 (1.92)	6.00 (4.38)	1.30 (0.60)	4.15 (4.08)
	Ulceration Present (%)	23 (30)	54 (70)	0 (0)	77 (100)
Treatment	SLNB Failed or Not Performed (%)	11 (39)	17 (61)	-	28 (100)
	# Treated with Adjuvant (%)	6 (21)	7 (25)	15 (54)	28 (100)
	# BRAF Mutation/ # Tested	5/22	9/31	13/27	27/80
Recurrence	Recurrence Number (Rate within Substage)	11 (20)	19 (35)	7 (15)	37 (23)
	Total (%)	56 (35)	54 (34)	48 (30)	158 (100)