



Predicting Malignancy in Small Lumps ($\leq 5\text{cm}$)

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Introduction

- **Current Guidelines state that any lump:**

- >5cm in Size
- Increasing in Size
- Deep to the Deep Fascia
- Painful

should be referred to a Specialist Centre for Investigation and Management.

Introduction

BUT!

The average size
of tumour seen
at the Royal
Orthopaedic
Hospital is 10cm





Introduction

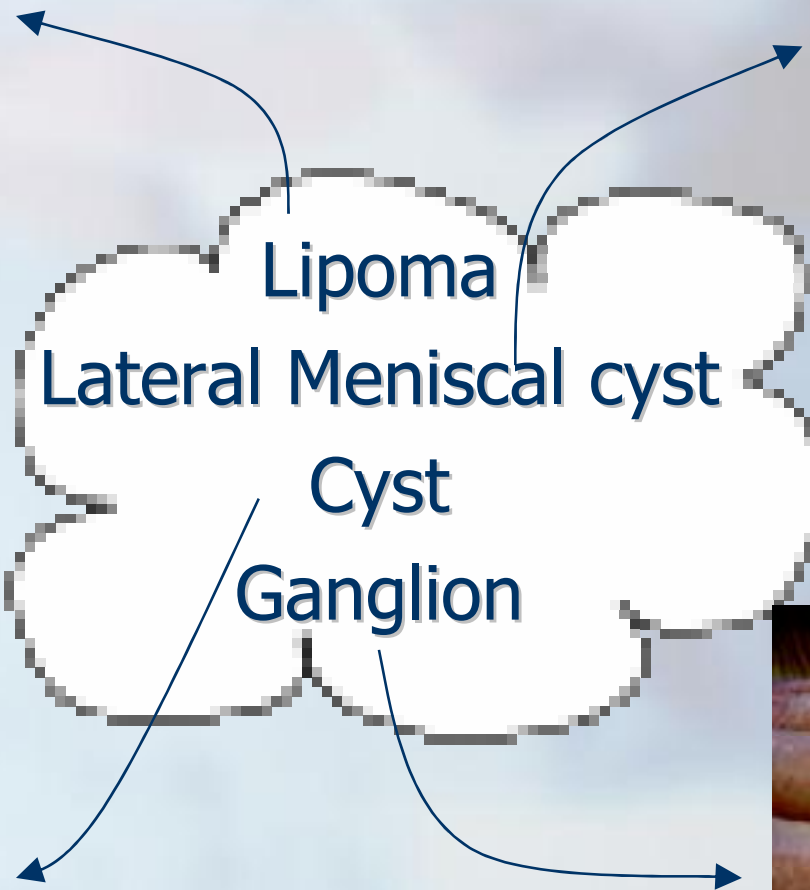
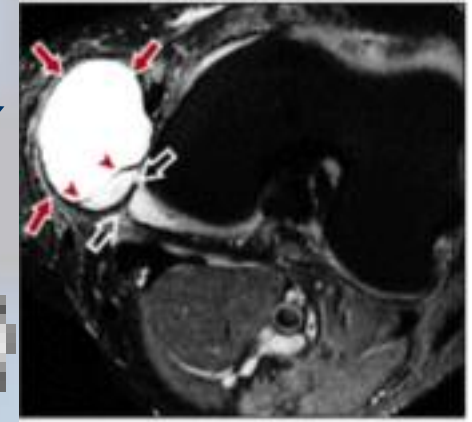
- Ideally we would like to identify STS when they are as small as possible.
- We have therefore reviewed our experiences of small lumps to identify if there are any factors which can reliably identify those which will turn out to be malignant.



Method

- All patients with small ($\leq 5\text{cm}$) Soft Tissue lumps from the Oncology Department of the Royal Orthopaedic Hospital, Birmingham were included
- Data was collected from the department database
- Size, symptoms, depth and diagnosis were analysed to try and identify factors associated with malignancy.

Some Differential Diagnoses of Small Lumps





Results

- 325 patients
- 57 (17.5%) malignant : 268 (82.5%) benign
- Factors associated with malignancy:
 - Size $>3\text{cm}$ = 35.8% vs 9.9% $\leq 3\text{cm}$
 - Increasing in size = 23.6% vs 8.6%
 - Deep = 18.3% vs 15.6% sc
 - Pain = 15.5% vs 18.9% painless



Sensitivity and Specificity

	Sensitivity	Specificity
■ >3cm:	73.6%	56.3%
■ Depth:	73.6%	30.2%
■ Increase Size:	71.4%	56.7%
■ Pain:	33.3%	57.1%



Malignancy and Features

- If a lump has no features = 89.5% certain it is not sarcoma.
- Sensitivities:
 - 1 Feature = 16.1%
 - 2 Features = 58%
 - 3 Features = 87%
 - 4 Features = 93.5%



Limitations

- Small sample of small malignant lumps
- Data skewed because most 'innocent' lumps will not be referred
- All lumps referred to Oncology Department are by their nature "suspicious".
- No population based study has yet been carried out to investigate ALL lumps in a community



Discussion

- “Deep”, “Increasing in size” and “>3cm” are the most reliable indicators of malignancy in small lumps
- Presence or absence of pain is not a reliable indicator.



Conclusions

- This study confirms that even if a lump is <5cm but is:
 - Increasing in size
 - Deep
 - >3cm

It **must** still be considered potentially malignant

- There is a need for a population based study considering all Soft Tissue lumps