Trust Guideline for the Investigation of Incidental Adrenal Masses in Adults

A clinical guideline recommended for use

For Use in:	A&E, Medical Assessment Unit, ITU/HDU Medical and Surgical wards
By:	Medical, Clinical investigation unit and Surgical staff
For:	Investigation of incidental adrenal masses in adults
Division responsible for document:	Medical Division (Including Emergency)
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Compliance links:	None
If Yes - does the strategy/policy deviate from the recommendations of NICE? If so why?	N/A

This guideline has been approved by the Trust's Clinical Guidelines Assessment Panel as an aid to the diagnosis and management of relevant patients and clinical circumstances. Not every patient or situation fits neatly into a standard guideline scenario and the guideline must be interpreted and applied in practice in the light of prevailing clinical circumstances, the diagnostic and treatment options available and the professional judgement, knowledge and expertise of relevant clinicians. It is advised that the rationale for any departure from relevant guidance should be documented in the patient's case notes.

The Trust's guidelines are made publicly available as part of the collective endeavour to continuously improve the quality of healthcare through sharing medical experience and knowledge. The Trust accepts no responsibility for any misunderstanding or misapplication of this document.

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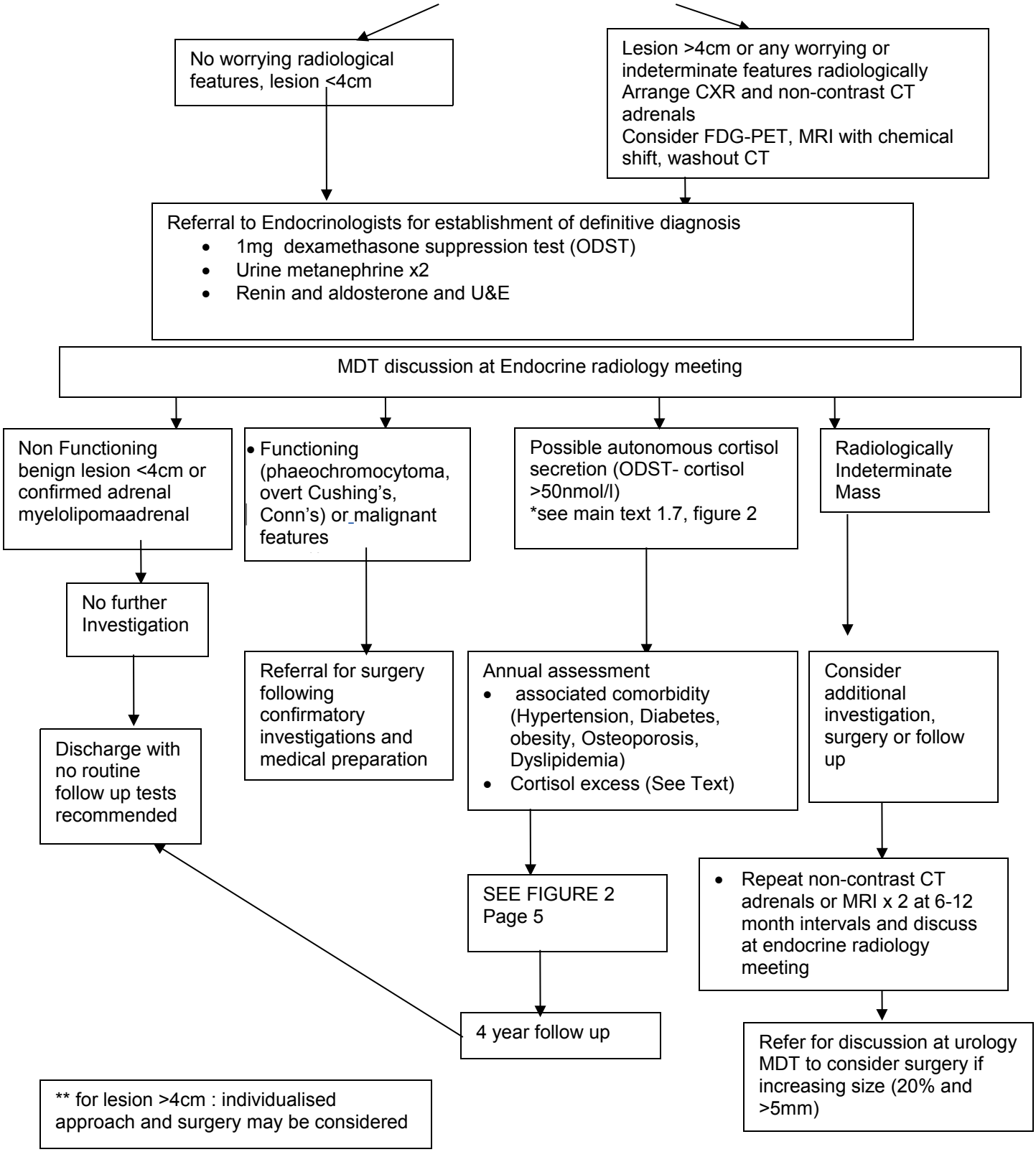
A. Quick Reference Guideline A



Glossary

Initials/term	Definition
Dexamethasone suppression test	Specific tests to determine whether adrenocortical tumours are secreting glucocorticoids
HU	Hounsfield Units (CT characteristic, <10 HU = consistent with benign adrenal adenoma)
LDDST	Low dose dexamethasone suppression test
Phaeochromocytoma	Tumour of the adrenal medulla secreting catecholamines
ODST	Overnight Dexamethasone Suppression Test

B. Objective of Guideline

The safe and consistent management of patients detected as having unexpected or incidental adrenal lesions on imaging performed for unrelated reasons or in the staging of known malignancy.

C. Rationale for the recommendations

Adrenal incidentalomas are common and their investigation presents a large clinical problem with a high associated financial cost.

Biopsy of undiagnosed or unsuspected Phaeochromocytomas can be fatal.
Safe and rational investigation of adrenal nodules is therefore of paramount importance.

D. Detailed Recommendations

1. INCIDENTAL ADRENAL MASSES IN THE ABSENCE OF KNOWN MALIGNANCY OR ENDOCRINE DISEASE

1.1 Initial CT or MRI suggests benign adrenal myelolipoma or adrenal adenoma <4 cm with no concerning features

1 Refer to endocrinology for biochemical and clinical assessment

2 Endocrinology will organise overnight dexamethasone suppression test, urine metanephrines, renin and aldosterone level, and baseline blood tests prior to first clinic appointment to determine whether the adrenal is functioning or not.

3 Review at dedicated weekly endocrine radiology meeting to confirm benign characteristics

4 Endocrine clinic review to confirm functional status, , risk of malignancy and other relevant co-morbidities.

5 Patients with radiologically benign and biochemically and clinically non-functioning adrenal lesions <4cm can be safely discharged with no routine follow up investigations required.

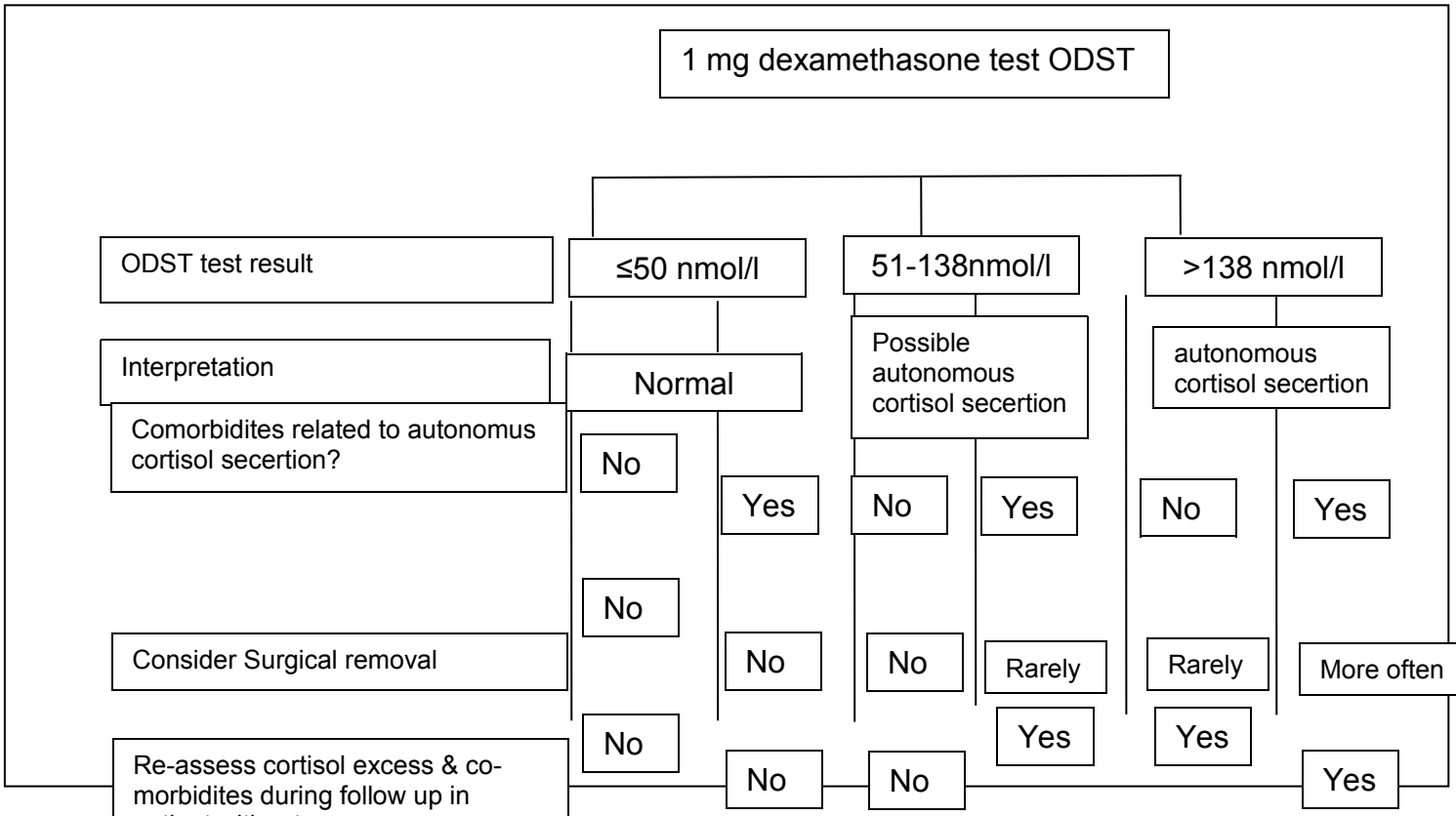
6 Functioning adenomas and phaeochromocytomas require specific medical management prior to consideration of surgery.

7 Autonomous cortisol secretion

Patients with benign adenomas with possible autonomous cortisol production (ODST result >50) or in whom there is a clinical suspicion of Cushing's syndrome require further specialist assessment with urinary free cortisol and LDDST testing. These patients then require yearly endocrine follow-up to assess for

a. cortisol excess –LDDST and urinary free cortisol
b. associated CV risk (and comorbidities): diabetes, hypertension, osteoporosis, hypertension and dyslipidemia**.**

Possible autonomous cortisol secretion is defined by a cortisol of 51-138 after ODST. Autonous cortisol secretion is defined by a cortisol >138nmol/L. Consider surgery for autonomous cortisol secretion with deteriorating comorbidities, but surgery is rarely indicated in patients with milder disease. See figure 2.



gement of 'autonomous cortisol secretion' in patients with adrenal incidentalomas.

2. >4cm on initial imaging OR unusual / not clearly benign features / growth of lesion on follow up scan at any stage

A. Chest X-Ray in all patients with lesions >4cm

B. Repeat adrenal imaging (non contrast CT adrenals or MRI) at 6-12 months according to MDT discussion.

C. If at any stage lesion exceeds 4cm, is significantly increasing in size, or has atypical imaging features, review at endocrine radiology meeting, perform functional assessment as above (if not done already), start medical treatment as necessary and refer to urology MDT for consideration of surgery.

3. PATIENTS WITH A NEWLY DIAGNOSED ADRENAL MASS AND A POSSIBLE OR KNOWN EXTRA ADRENAL MALIGNANCY

A. Indeterminate lesions in this group has up to 70% of malignancy, consider PET/CT and discussion in relevant MDT

B. Measure urine and or plasma metanephrine even if adrenal mass is likely to be metastasis

C. Benign CT feature need no further investigation for adrenal mass

D. Consider performing a biopsy of adrenal mass only if all following criteria are met

   1. Pheochromocytoma is excluded*
   2. Not benign feature on CT
   3. Management of underlying malignancy would altered by knowledge of histology of the adrenal mass**

E. Assess for adrenal insufficiency in large bilateral adrenal potential metastasis

*Biopsy of an undiagnosed Phaeochromocytoma can lead to fatal complications.For this reason, a Phaeochromocytoma must be ruled out before proceeding to an adrenal procedure in all patients.

1. Arrange plasma metanephrines. Interfering medications are listed in appendix 1 Safe to proceed to biopsy or adrenalectomy if clinically indicated and plasma metanephrines are normal
2. In all other cases, refer to endocrinology for further investigation and possible pre operative alpha blockade.

**Patients with widespread metastatic disease and adrenal nodules do not need adrenal biopsy Ensure radiology and management is reviewed at appropriate MDT.

E. Clinical Audit Standards derived from guideline

1. Baseline clinical assessment of all patients with adrenal nodules
2. Exclusion of Phaeochromocytoma or treatment for Phaeochromocytoma in all patients undergoing adrenal biopsy or adrenalectomy.

F. Summary of development and consultation process undertaken before registration and dissemination

The authors listed above on behalf of a guideline development group within the endocrinology directorate, which has agreed the final content, drafted the guideline. During its development it has been circulated for comment to all endocrine consultants, endocrine specialist nurses, and consultants in urology, oncology, anesthetics and radiology. This guideline was approved by the clinical governance committee of the endocrine directorate.

G. Distribution list/ dissemination method

Trust Intranet

H. References/ source documents

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Appendix 1

Metanephrine collections:

Paracetamol should be avoided for 48hours prior to and throughout urinary collections for metanephrines.
Antidepressants, snoring, untreated sleep apnoea, and major illness will also lead to transient elevations in metanephrines.

Renin and aldosterone measurements:

Angiotensin converting enzyme inhibitors prevent angiotensin production, and angiotensin 2 receptor blockers prevent its action, such that both classes of drug may lead to falsely low ratios (increased renin and decreased aldosterone). These should ideally be stopped for 4 weeks prior to sampling.

Spironolactone and other aldosterone antagonists prevent its action and so potentially increase aldosterone. These should ideally be stopped for 4 weeks prior to sampling.

Beta blockers prevent renin release and also lead to suppression of renin and a falsely increased renin:aldosterone ratio. These should ideally be stopped for 2 weeks prior to sampling.

Diuretics potentially reduce fluid delivery to renal tubules. This leads to increased renin production and so increased renin and aldosterone. This also makes interpretation of renin:aldosterone ratios difficult. These should ideally be stopped for 2 weeks prior to sampling.