

Tests, treatments and procedures at risk of inappropriateness in Italy  
that Physicians and Patients should talk about.

## Five Recommendations from SIPMeL

Italian Society of Clinical Pathology and Laboratory Medicine

E-MM Study Group Endocrinology and Metabolism Diseases

<b>1</b>	<p><b>Do not perform an extended panel of thyroid tests when thyroid diseases are suspected, perform only TSH or TSH Reflex. Do not screen asymptomatic subjects and measure only FT3 for monitoring levothyroxine treatment in patients with hypothyroidism.</b></p> <p>TSH and TSH reflex are usually sufficient in the assessment of thyroid function. TSH reflex is preferred for diagnosis and TSH in monitoring. It is more appropriate to request TSH and FT4 when the pituitary-thyroid axis is not intact and its equilibrium is not stable.</p> <p>The interpretation of the FT3 results can be difficult mainly for methodological problems. The determination of TSH is sufficient to verify the correct dosage in patients treated with levothyroxine.</p>
<b>2</b>	<p><b>Do not measure random serum cortisol and plasma corticotrophin (ACTH) and urinary 17-ketosteroids and do not perform insulin tolerance tests, Loperamide test and Dexamethasone test (8 mg), when Cushing syndrome is suspected.</b></p> <p>For screening Cushing syndrome one of the following three tests is recommended: Urinary Free Cortisol (at least two 24-hour collections), night salivary cortisol (two samples collected in two different days), serum cortisol after overnight dexamethasone suppression test, 1mg (oDST) or after dexamethasone suppression test, 2 mg/day for 48 hours.</p>
<b>3</b>	<p><b>Do not perform urinary vanilmandelic acid and plasma and/or urinary catecholamines for diagnosing pheochromocytoma.</b></p> <p>For diagnosing pheochromocytoma do perform free plasma metanephrines and, if they are not available, fractionated urinary metanephrines. Since plasma or urine metanephrines sensitivity is high, a negative result excludes pheochromocytoma, while the same conclusion is not possible catecholamines and their metabolites (e.g. urinary vanilmandelic acid).</p>
<b>4</b>	<p><b>Do not perform anti-TPO (thyroid peroxidase) and anti-Tg (thyroglobulin) antibodies together when autoimmune thyroiditis is suspected, but only anti-TPO.</b></p> <p>Anti-TPO antibodies are useful in the diagnosis of an autoimmune thyroid disease, not in monitoring. Do not retest anti-TPO antibodies when a positive result has already been found.</p> <p>The specificity of anti-Tg antibodies is low. Perform them only when hypothyroidism is suspected and the anti-TPO antibodies are negative. Treatment must be based on TSH concentration not on antibodies concentration.</p>
<b>5</b>	<p><b>Do not perform population screening for 25OH vitamin D deficiency.</b></p> <p>The Endocrine Society Guidelines recommend screening in individuals at risk of deficiency and not for assessing the health of the general population, as there is no evidence of its efficacy in terms of health outcomes. Despite the high prevalence of deficiency / insufficiency reported in the literature, awareness and supplementation programs in adults and children are considered more effective than screening.</p> <p>The Endocrine Society recommends the monitoring of 25OH-D levels in subjects at risk of deficiency and in osteoporosis assessment or functional diagnosis of proximal myopathies.</p>

Please note that these items are provided only for information and are not intended as a substitute for consultation with a clinician. Patients with any specific questions about the items on this list or their individual situation should consult their clinician.

## How this list was created

The Endocrinology and Metabolic Diseases (EMM) Study Group of the Italian Society of Clinical Pathology and Laboratory Medicine started in 2008. It includes professionals who work on Endocrinology and Metabolic Diseases in laboratories of different sizes throughout Italy with the aim to study and discuss the theoretical and practical laboratory aspects of Endocrinology and Metabolic Diseases. All the members of the Group sent to the project coordinator up to 5 procedures at risk of inappropriateness and assigned to each procedure a 1-10 score with a brief motivation and the most significant bibliographic references. The coordinator prepared a summary of the submitted proposals, and the overall score of each procedure. The ranking obtained was sent to the Study Group members for final evaluation and the list of the 5 procedures at the highest risk of inappropriateness in EMM was approved.

## Sources

<b>1</b>	<ol style="list-style-type: none"> <li>1. Garber JR, Cobin RH, Gharib H, et al (2012) Clinical practice guidelines for hypothyroidism in adults. <i>Endocr Pract</i> 18:988-1028.</li> <li>2. Demers LM, Spencer CA (2003) Laboratory medicine practice guidelines: laboratory support for the diagnosis and monitoring of thyroid disease. <i>Clin Endocrinol (Oxf)</i> 58: 138-140.</li> <li>3. Koulouri O, Moran C, Halsall D, et al (2013) Pitfalls in the measurement and interpretation of thyroid function tests. <i>Best Pract Res Clin Endocrinol Metab</i> 27:745-762.</li> <li>4. LeFevre ML, U.S. Preventive Services Task Force (2015) Screening for thyroid disease: recommendation statement. <i>Ann Intern Med</i> 162: 641-50.</li> </ol>
<b>2</b>	<ol style="list-style-type: none"> <li>1. Nieman LK, Biller BM, Findling JW, et al (2008) The diagnosis of Cushing's syndrome: an Endocrine Society Clinical Practice Guideline. <i>J Clin Endocrinol Metab</i> 93:1526-40.</li> <li>2. Guignat L, Bertherat J (2010) The diagnosis of Cushing's syndrome: an Endocrine Society Clinical Practice Guideline: commentary from a European perspective. <i>Eur J Endocrinol</i> 163:9-13.</li> <li>3. D'Aurizio F, Tozzoli R, Dorizzi RM, et al (2015) La diagnostica di laboratorio delle malattie del surrene. Raccomandazioni pratiche per la sindrome di Cushing. <i>Riv Ital Med Lab</i> 11: 132-149.</li> <li>4. Nieman LK, Biller BM, Findling JW, et al (2015) Treatment of Cushing's Syndrome: An Endocrine Society Clinical Practice Guideline. <i>J Clin Endocrinol Metab</i> 100: 2807-2831.</li> </ol>
<b>3</b>	<ol style="list-style-type: none"> <li>1. Eisenhofer G (2014) Pathophysiology and diagnosis of disorders of the adrenal medulla: focus on pheochromocytoma. <i>Compr Physiol</i> 4: 691-713.</li> <li>2. Carr JC, Spanheimer PM, Rajput M et al (2013) Discriminating pheochromocytomas from other adrenal lesions: the dilemma of elevated catecholamines. <i>Ann Surg Oncol</i> 20: 3855-3861.</li> <li>3. Lenders JW, Pacak K, Walther MM et al (2002) Biochemical diagnosis of pheochromocytoma: which test is best? <i>JAMA</i> 287:1427-1434.</li> <li>4. Lenders JW, Duh QY, Eisenhofer G et al (2014) Pheochromocytoma and paraganglioma: an endocrine society clinical practice guideline. <i>J Clin Endocrinol Metab</i> 99: 1915-42.</li> </ol>
<b>4</b>	<ol style="list-style-type: none"> <li>1. Sinclair D (2006) Clinical and laboratory aspects of thyroid autoantibodies. <i>Ann Clin Biochem</i> 13: 173-183.</li> <li>2. Dorizzi RM, Giavarina D, Moghetti P, et al (1997) Anti-TPO and anti-thyroglobulin antibodies or anti-TPO antibodies alone? <i>Clin Endocrinol (Oxf)</i> 46: 235-236.</li> <li>3. Czarnocka B, Cocks Eschler D, et al. (2014) Thyroid antibodies: thyroid peroxidase and thyroglobulin antibodies. In: Shoenfeld Y, Meroni PL, Gershwin ME, eds <i>Autoantibodies</i>, 3rd ed. Amsterdam Elsevier, 365-373.</li> </ol>
<b>5</b>	<ol style="list-style-type: none"> <li>1. Holick MF, Binkley NC, Bischoff-Ferrari HA et al (2011) Evaluation, Treatment and Prevention of vitamin D deficiency: an Endocrine Society Clinical Practice guideline. <i>J Clin Endocrinol Metab</i>; 96:1911-30.</li> <li>2. Holick MF (2010) The D-lemma: to screen or not to screen for 25OH vitamin D concentrations. <i>Clin Chem</i> 56:729-731</li> <li>3. LeBlanc ES, Zakher B, Monica Daeges M, et al (2015) Screening for Vitamin D Deficiency: A Systematic Review for the U.S. Preventive Services Task Force 162:109-122.</li> <li>4. LeFevre ML (2015) US Preventive Services Task Force. Screening for vitamin D deficiency in adults: US Preventive Services Task Force recommendation statement. <i>Ann Intern Med</i> 162:133-140.</li> </ol>

**Slow Medicine**, an Italian movement of health professionals, patients and citizens promoting a Measured, Respectful and Equitable Medicine, launched the campaign "**Doing more does not mean doing better-Choosing Wisely Italy**" in Italy at the end of 2012, similar to Choosing Wisely in the USA. The campaign aims to help physicians, other health professionals, patients and citizens engage in conversations about tests, treatments and procedures at risk of inappropriateness in Italy, for informed and shared choices. The campaign is part of the Choosing Wisely International movement. Partners of the campaign are the National Federation of Medical Doctors' and Dentists' Orders (FNOMCeO), that of Registered Nurses' Orders (FNOPI), the Academy of Nursing Sciences (ASI), National Union of Radiologists (SNR), Tuscany regional health agency, PartecipaSalute, Altroconsumo, the Federation for Social Services and Healthcare of Aut. Prov. of Bolzano, Zadig. [www.choosingwiselyitaly.org](http://www.choosingwiselyitaly.org); [www.slowmedicine.it](http://www.slowmedicine.it)

**The Italian Society of Clinical Pathology and Laboratory Medicine (SIPMeL)** is a national medical/scientific association of professionals working in clinical laboratories. The SIPMeL was established in 2014 after the re-union of SIMeL (Italian Society of Laboratory Medicine), founded in 1986, and AIPaCMeM (Italian Association of Clinical Pathology and Molecular Medicine). The structure of society with 2000 members is federal and includes three professional components: medical doctors, graduates in scientific disciplines (DSLb) and biomedical laboratory technicians (STLb). The aim of the society is to develop and disseminate the professional standards on which the laboratory "good practice" is based. The participants to the education activities of the society receive training credits in accordance with the Ministry of Health's Continuing Medical Education Program. The scientific research and training activities are promoted and maintained by 22 study groups. [www.sipmel.it/it/](http://www.sipmel.it/it/)