

Red Flags in Urogynecological Assessment – Background Paper

Issues

Female urogynecological conditions such as urinary incontinence and pelvic organ prolapse are common (affecting over 30% of adult women) and are not life-threatening conditions. However, a small percentage of women who experience symptoms of incontinence and/or prolapse are affected by more serious underlying conditions. It is important that health care providers who carry out standard urogynecological assessments remain vigilant for signs of these sinister conditions in order to avoid missing diagnosis of potentially life-threatening disorders.

In the Saskatchewan the Pelvic Floor Pathway primary care physicians will be responsible for the initial assessment of patients and will be supported by the specialists and multi-disciplinary team at the Pelvic Floor Pathway Clinics. By engaging family physicians in early intervention and assessment many patients will also receive early medical interventions and therapies without the necessity of consulting a specialist. This facilitates shorter waits for more complicated cases to see a specialist.

However, removing specialists from the initial assessment creates a risk that some complex conditions may not be diagnosed appropriately. This risk can be mitigated by creating an algorithm approved by specialists to guide practitioners through the assessment, and to identify red flags indicating the need for immediate specialist referral.

Background

Guidelines in Canada (2005)¹, UK (2006)² and US (2005)³ recommend that initial assessment of patients with symptoms of urinary incontinence and prolapse include a targeted medical history and assessment of quality of life, general assessment, and targeted physical assessment. Women with complicated conditions are screened through this process and are referred for specialist consult.

For basic evaluation of patients with urinary incontinence in Canada see Table 1.

The Canadian Urological Association Guidelines for Investigation of Urinary Incontinence (General)

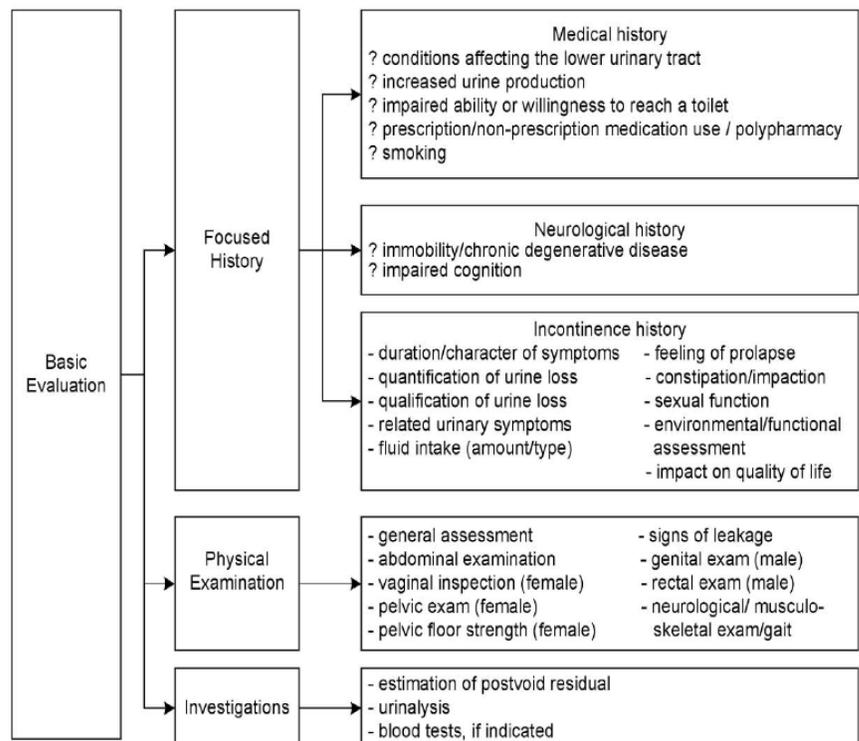


Table 1: CUA Guidelines 2005

2006 NICE guidelines (full version available at www.nice.org.uk/Guidance/CG40), identify outcomes of the above investigations that require specialist referral. According to NICE, women with UI who have symptomatic prolapse that is visible at or below the vaginal introitus, or a palpable bladder on bimanual or abdominal examination after voiding, should be referred to a specialist. For urinary incontinence, indications for urgent referral are:

- microscopic haematuria in women aged over 50 years
- visible haematuria
- recurrent or persisting UTI associated with haematuria in women aged 40 years or over
- suspected malignant pelvic mass.

NICE guidelines indicate that referral should be considered in cases of:

- persisting bladder or urethral pain
- clinically benign pelvic masses
- associated faecal incontinence
- suspected neurological disease
- symptoms of voiding difficulty
- suspected urogenital fistulae
- previous continence surgery
- previous pelvic cancer surgery
- previous pelvic radiation therapy.⁴

A review of literature concerning current referral and intervention patterns for female urinary incontinence and vaginal prolapse identifies several best practices in the assessment and diagnosis of complex conditions.

Red Flags

A. Hematuria

Blood in the urine (hematuria) can originate from any site along the urinary tract and, whether gross or microscopic, may be a sign of serious underlying disease, including malignancy. According to the Cleveland Clinic Centre for Continuing Education, infection accounts for 25% of all cases of hematuria⁵ and stones account for another 20%.⁶ The incidence of urologic malignancy increases with advancing age and is more common in men.

The literature agrees that gross hematuria warrants a thorough diagnostic evaluation. By contrast, whether physicians should test for microscopic hematuria in asymptomatic patients is not clear.⁷

The American Urological Association recommends that high-risk patients should be considered for full urologic evaluation after one properly performed urinalysis documenting the presence of at least three red blood cells per high-power field. Risk factors for significant disease in patients with microscopic hematuria include smoking history, occupational exposure to chemicals or dyes (benzenes or aromatic amines), history of gross hematuria, age >40 years, history of urologic disorder or disease, history of

irritative voiding symptoms, history of urinary tract infection, analgesic abuse, history of pelvic irradiation.⁸ The AUA recommends that in low-risk individuals, urological assessment can be deferred.

Canadian guidelines, however, recommend that all patients with persistent microscopic hematuria be assessed by a urologist.⁹ In Canadian guidelines, significant microscopic hematuria is defined as greater than 2 RBCs/hpf on two microscopic urinalyses.

Assessment and Referral:

NICE guidelines recommend that a urine dipstick test should be undertaken in all women presenting with urinary incontinence to detect the presence of blood, glucose, protein, leucocytes and nitrites in the urine.¹⁰ Women with whose urine tests positive for the above should have a urine specimen sent for culture and analysis.

According to Canadian guidelines, the assessment process should begin with comprehensive analysis of the urine and urinary sediment to determine the number of red blood cells per high-power field and the presence of dysmorphic red blood cells or red cell casts. Urinalysis should include presence and degree of proteinuria and evidence of urinary tract infection.¹¹

US, UK and Canadian guidelines agree that in patients with microscopic hematuria who indicate recent exercise, menses, sexual activity or urethral trauma/instrumentation, a repeat microscopic exam should be done once the contributing factor has ceased. If the subsequent exam is negative, then further work-up is not required.

Patients with urinary tract infection should be treated appropriately, and urinalysis should be repeated six weeks after treatment. If the hematuria resolves with treatment, no additional evaluation is necessary.

The presence of proteinuria, red cell casts, or dysmorphic red blood cells on microscopic exam and/or an elevated creatinine is suggestive of a glomerular cause of hematuria and these patients should be referred to a nephrologist for further investigation. All other patients should be assessed by a urologist.¹²

The AUA recommends that patients with asymptomatic microscopic hematuria should only be referred for renal or urologic evaluation if they are at risk for urologic disease or primary renal disease. Risk factors include smoking history, occupational exposure to chemicals or dyes, age >40 years, history of gross hematuria, history of irritative voiding symptoms, history of recurrent UTIs, or previous urologic disease.¹³

B: Palpable Bladder

Incomplete emptying of the bladder may mimic urgency and incontinence, but has different causes.¹⁴ Therefore a palpable bladder should be identified and signs of incomplete emptying assessed during the primary assessment for women with urinary incontinence and prolapse.

The main cause of a palpable bladder is urinary retention or incomplete emptying of the bladder. Chronic urinary retention is frequently asymptomatic - a patient is able to urinate, but

may experience lower urinary tract symptoms, related to storage and voiding difficulties. Chronic urinary retention, while not immediately life threatening, can lead to renal impairment or to acute urinary retention which is a medical emergency.

The most usual cause of chronic urinary retention is bladder outlet obstruction. In women this is commonly caused by certain drugs, by congenital deformities of the bladder neck, and by urethral strictures caused by infection or trauma. Another cause of urinary retention is neurogenic bladder, which can cause patients to present with overflow incontinence or recurrent UTI.¹⁵

Assessment and Referral

In order to identify incomplete bladder emptying, abdominal examination should include percussion and palpation of the bladder. A bladder should be percussible if it contains at least 150 mL of urine; it may be palpable with more than 200 mL.¹⁶ Acute urinary retention is characterized by tenderness or pain in the bladder on palpation.

A more accurate assessment of incomplete emptying can be achieved via ultrasound or post void catheterization. A post void residual volume >150 mL is considered abnormal and suggests overflow incontinence.¹⁷

Urodynamic testing may also show whether an underlying abnormality of storage or voiding is present. Research agrees that urodynamic testing is not appropriate for all patients, and is not required before conservative treatment is attempted.¹⁸ Urodynamic testing is considered in women before surgery for stress incontinence if symptoms of incomplete bladder emptying are present, and the patient has had previous surgery for stress urinary incontinence or prolapse. Surgery for stress incontinence may not improve continence if bladder outflow obstruction is also present.¹⁹

Evidence of acute urine retention may be cause for an emergency referral. Evidence of incomplete emptying of the bladder is cause for referral to a urologist for further assessment.

C. Suspected Neurologic Damage

During medical history and assessment, history of neurologic disease, spinal trauma or tumor, diabetes, and any change in baseline neurologic status should be carefully noted. The physical examination of such patients may reveal a distended bladder, but a neurologic examination is necessary to rule out neurogenic bladder.

Patients with suspected neurogenic bladder should undergo a general neurologic examination, as well as specific examinations related to bladder function. These include the anal reflex or anal wink, voluntary contractions of the pelvic floor, anal sphincter tone, and sensation in the “saddle” area.²⁰ Deep tendon reflexes in the lower extremities, clonus, and plantar responses, as well as the bulbocavernosus reflex, should be routinely evaluated.²¹ Evidence of a neurogenic bladder is cause for referral to a neurologist.

D. Pelvic Mass

Any growth or tumor of the abdomen or pelvis that is large enough to be noticeable is considered a pelvic mass. According to the American College of Obstetricians and Gynecologists, masses in premenopausal women typically have a gynecologic source (e.g., functional cysts), whereas masses in postmenopausal women are typically benign neoplasms (e.g., cystadenomas). Family physicians can manage many nonmalignant adnexal masses.

However, metastatic cancers can sometimes initially present as adnexal masses.²² According to guidelines provided by the Society of Gynecologic Oncologists of Canada, primary care physicians and gynaecologists should always consider the possibility of an underlying ovarian cancer in patients in any age group presenting with an adnexal or ovarian mass.²³ Guidelines agree that prepubescent girls and postmenopausal women with an adnexal mass should be referred for further treatment.

Assessment and Referral

The physical exam should include visualization and palpation of the abdomen, looking for adenopathy, ascites, a palpable mass, CVA tenderness, and abdominal pain. A bimanual pelvic exam should look for compression of the cervix against one side of the vagina (mass effect), an adnexal or uterine enlargement or "fullness," tenderness, associated vulvar or vaginal lesions, and rectovaginal compression or blood in the rectum.²⁴

Some research has questioned the value of the pelvic examination for detecting pelvic masses, especially in patients whose body mass index is greater than 30 kg per m².²⁵ Level of education of the practitioner has not been correlated to greater ability to detect pelvic masses; however there is indication that pelvic examination skills reach a plateau after a certain number of examinations have been done. In other words, practitioners who perform pelvic examinations routinely have better sensitivity and specificity to detect adnexal masses.²⁶ NICE guidelines do not recommend imaging (MRI, CT, X-ray, ultrasound) for the routine assessment of asymptomatic women.²⁷

A urine pregnancy test should be performed in any woman of reproductive age who presents with an adnexal mass. If the pregnancy test is positive, and no intrauterine pregnancy is visible on transvaginal ultrasonography, an ectopic pregnancy should be suspected.²⁸

Once a pelvic mass has been identified during assessment, the nature and size of the mass should be evaluated and the nature of the mass diagnosed by a specialist using appropriate testing and imaging tools. Patients deemed to have a high risk of an underlying malignancy should be reviewed in consultation with a gynaecologic oncologist for assessment and optimal surgical management.²⁹ All women, regardless of menopausal status, should be referred if they have evidence of metastatic disease, ascites, a complex mass, an adnexal mass greater than 10 cm, or any mass that persists longer than 12 weeks.³⁰

Med Safety

Practitioners should be attentive to the following warning signs during assessment and communicate them to the patient and all members of the care team before and during pharmacotherapy.

Torsade de pointes can occur with QT/ATc prolonging drugs and is of particular importance in patients with abnormally long baseline QT/QTc intervals or when taking potent CYP3A4 inhibitors. Risk factors for a long QT interval include known condition, personal history of fainting spells, hypokalemia, eating disorders, extreme diet, diabetes, family history of sudden cardiac death at <50 years of age. Discontinuation of anticholinergic meds should be considered with symptoms suggestive of arrhythmia. Symptoms include dizziness, fainting, palpitations (rapid pounding or irregular heart beat) or seizures.

Certain forms of Glaucoma are a contraindication for treatment with anticholinergic medications. An appropriate medical history should include questioning patients regarding a previous diagnosis of Glaucoma. To identify potential undiagnosed cases of Glaucoma, medical history forms should also include questions regarding related symptoms such as severe eye pain and/or halos around the irises. It should be noted that patients who are near-sighted or have had previous surgery for cataracts are not at risk for Narrow Angle Glaucoma.

Chronic urine retention is a contraindication for treatment with antimuscarinic drugs. If symptoms of incomplete emptying are present, the patient and primary provider should be informed before pharmacotherapy is attempted.³¹

Practitioners should also be attentive to warning signs such as

- Gastric retention/gastroparesis. More common in patients with longstanding diabetes but can occur spontaneously as well. Hepatic function impairment, renal impairment or patients treated with CYP3A4 inhibitors should use lower doses of anticholinergic medications.
- These medications generally are avoided during pregnancy or breastfeeding.
- Response should be monitored in patients with myasthenia gravis.
- Cognitive effects are known to be an issue with many drugs that have anticholinergic side effects.

Pathway Tools

Tools for patient assessment in the Pelvic Floor Pathway include detailed medical history forms and assessment forms for collecting and compiling information from patient surveys and from physical examination. These tools have been adjusted to draw attention to potential red flags in assessment, as follows.

PRE-APPOINTMENT PATIENT HISTORY		
Patient's Name:		
Health Card Number:		
1. Please describe the main problem you would like us to address. (for example "I leak urine on the way to the bathroom" or "I feel a bulge in my vagina")		
2. What treatments have you already tried for your problem?		
<input type="checkbox"/> nothing <input type="checkbox"/> lifestyle modifications (weight loss, caffeine reduction)	<input type="checkbox"/> physiotherapy <input type="checkbox"/> pessary <input type="checkbox"/> surgery	<input type="checkbox"/> antibiotics <input type="checkbox"/> medication <input type="checkbox"/> pelvic floor exercises (kegels)
3. What do you hope to accomplish with further treatment?		
3. Do you have any medical problems? (Check only those that apply to you.)		
<input type="checkbox"/> high blood pressure <input type="checkbox"/> bleeding problems <input type="checkbox"/> abnormal bruising <input type="checkbox"/> diabetes <input type="checkbox"/> thyroid disease <input type="checkbox"/> renal/kidney failure <input type="checkbox"/> heart burn <input type="checkbox"/> hiatus hernia <input type="checkbox"/> stomach ulcers	Mood disorders such as: <input type="checkbox"/> depression <input type="checkbox"/> anxiety <input type="checkbox"/> bipolar disorder Heart problems such as : <input type="checkbox"/> Angina; <input type="checkbox"/> heart attack; <input type="checkbox"/> Rheumatic fever; <input type="checkbox"/> pacemaker; <input type="checkbox"/> heart murmur; <input type="checkbox"/> irregular heart beat;	Breathing problems such as: <input type="checkbox"/> Asthma; <input type="checkbox"/> emphysema; <input type="checkbox"/> chronic bronchitis; Neurological conditions: <input type="checkbox"/> stroke; <input type="checkbox"/> Parkinsons; <input type="checkbox"/> multiple sclerosis; <input type="checkbox"/> epilepsy/seizures; <input type="checkbox"/> other
Other medical conditions: (please give details)		
What was the date of your last full physical exam?		
Are you seeing other doctors, apart from the referring doctor? For what reasons?		
What was the date of your last eye exam? Do you have: <input type="checkbox"/> Glaucoma <input type="checkbox"/> Pain in the eyes <input type="checkbox"/> Halo around the eyes <input type="checkbox"/> Nearsightedness <input type="checkbox"/> Cataracts/cataracts removed		
4. List all operations: (Note any surgeries that you had and when you had them. Example: appendectomy, hysterectomy, tubal ligation, gall bladder, cataract/eye surgery)		

Targetted questions for assessment of narrow angle glaucoma

Targetted questions for previous continence/cancer surgery

Pelvic Floor Pathway Clinic

(address, phone number)

PATIENT ASSESSMENT FORM

Stress Incontinence: ___ yes ___ no ___ maybe	<input type="checkbox"/> cough <input type="checkbox"/> laugh <input type="checkbox"/> sneeze <input type="checkbox"/> running	<input type="checkbox"/> stairs <input type="checkbox"/> lifting <input type="checkbox"/> exercise	Frequency: <input type="checkbox"/> rarely <input type="checkbox"/> weekly <input type="checkbox"/> daily <input type="checkbox"/> multiple times per day
Urge incontinence: ___ yes ___ no ___ maybe	<input type="checkbox"/> with strong urge <input type="checkbox"/> upon waking <input type="checkbox"/> washing hands <input type="checkbox"/> hearing running water <input type="checkbox"/> key in door	<input type="checkbox"/> enuresis <input type="checkbox"/> standing	Frequency: <input type="checkbox"/> rarely <input type="checkbox"/> weekly <input type="checkbox"/> daily <input type="checkbox"/> multiple times per day
Urgency alone without incontinence: ___ yes ___ no			
UTI's: ___ yes ___ no	Per year: <input type="checkbox"/> none <input type="checkbox"/> < 1	<input type="checkbox"/> 1 <input type="checkbox"/> 2-6 <input type="checkbox"/> > 6	<input type="checkbox"/> Pain with bladder filling <input type="checkbox"/> Pain with voiding
Difficulty emptying: ___ yes ___ no ___ maybe	<input type="checkbox"/> Straining <input type="checkbox"/> Double void <input type="checkbox"/> Hesitancy <input type="checkbox"/> Post void dribbling	Needs to push in prolapse to empty: <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> maybe Prolapse size affects emptying: <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> maybe	
RED FLAG: <input type="checkbox"/> visible hematuria	<input type="checkbox"/> microscopic <input type="checkbox"/> > 50 years old	<input type="checkbox"/> hematuria with UTI >40 years old	
Bowel function:	<input type="checkbox"/> normal <input type="checkbox"/> loose	<input type="checkbox"/> constipation <input type="checkbox"/> alternating constipation & diarrhea	Passage: <input type="checkbox"/> easy <input type="checkbox"/> difficult <input type="checkbox"/> digitates vagina <input type="checkbox"/> digitates rectum
Fecal Incontinence: ___ yes ___ no ___ maybe	Frequency: <input type="checkbox"/> rare <input type="checkbox"/> < once per month <input type="checkbox"/> monthly <input type="checkbox"/> weekly <input type="checkbox"/> daily	Incontinence suggestive of external sphincter (with urgency): <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> maybe Incontinence suggestive of internal sphincter (insensible losses, smearing): <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> maybe	

Targetted questions for recurrent UTI

Targetted questions for difficulty emptying

Red flags indicate urgent referral

Targetted questions for fecal incontinence

Pelvic Floor Pathway Clinic						
(address, phone number)						
PATIENT ASSESSMENT FORM						
Height:	Weight:				BMI:	
Saddle Sensation: S234 Light touch Pin Prick	Right:		<input type="checkbox"/> Nominal	<input type="checkbox"/> Absent		
	Left:		<input type="checkbox"/> Nominal	<input type="checkbox"/> Absent		
	Right:		<input type="checkbox"/> Nominal	<input type="checkbox"/> Absent		
	Left:		<input type="checkbox"/> Nominal	<input type="checkbox"/> Absent		
Sacral Reflex:	<input type="checkbox"/> Bulbocavernosus		<input type="checkbox"/> Anal wink			
Hysterectomy:	<input type="checkbox"/> yes <input type="checkbox"/> no					
Anterior	grade	0	1	2	3	
Apex	grade	0	1	2	3	
Posterior	grade	0	1	2	3	
Complete eversion:	<input type="checkbox"/> yes <input type="checkbox"/> no					
Post void residual: 	<input type="checkbox"/> history of voiding difficulty		Measured by catheter:			
	<input type="checkbox"/> recurrent UTI		<input type="checkbox"/> <50ml			
	<input type="checkbox"/> ≥ grade 2 cystocele or uterine prolapse		<input type="checkbox"/> 50-100ml			
	<input type="checkbox"/> neurological disease on history		<input type="checkbox"/> >100ml]			
			Measured by US:			
			<input type="checkbox"/> <50ml			
			<input type="checkbox"/> 50-100ml			
			<input type="checkbox"/> >100ml]			
RED FLAGS:	<input type="checkbox"/> Suspected pelvic or urinary tract mass			<input type="checkbox"/> Palpable bladder after voiding		
Pelvic Floor Strength	0	1	2	3	4	5
Introitus:	<input type="checkbox"/> normal <input type="checkbox"/> deficient					
Able to hold pessary:	<input type="checkbox"/> likely <input type="checkbox"/> unlikely					
TREATMENT OPTIONS						
Education	<input type="checkbox"/> Bladder Education		<input type="checkbox"/> Caffeine avoidance			
	<input type="checkbox"/> Urge suppression		<input type="checkbox"/> Pelvic floor exercises			
Pessary	<input type="checkbox"/> Information re. Pessary			<input type="checkbox"/> Pessary fitting		
Refer to physio						
Refer to GP	<input type="checkbox"/> Failed conservative therapy, wants meds					
	<input type="checkbox"/> Information re. meds					
Refer to surgeon/ specialist	<input type="checkbox"/> Failed meds, wants surgery					
	<input type="checkbox"/> Failed pessary, wants surgery					
	<input type="checkbox"/> Has other gyne or urogyne complaints needing assessment					
Other:						

Targetted questions for neurogenic bladder/ neurological deficit

Targetted questions for difficulty emptying

Red flags indicate urgent referral

Indication for referral

Summary of Recommendations:

Red Flag	Assessment	Referral
Hematuria	General assessment: <ul style="list-style-type: none"> • Do you see blood in your urine? 	• Urologist
	Urinalysis <ul style="list-style-type: none"> • Red blood cells 2 RBCs/hpf (unresolved after treatment for UTI, or after contributing factor has ceased) 	• Urologist
	Urinalysis <ul style="list-style-type: none"> • Proteinuria, red cell casts, or dysmorphic red blood cells and/or an elevated creatinine 	• Nephrologist
Palpable bladder/ symptoms of incomplete emptying	Abdominal exam <ul style="list-style-type: none"> • Percussible bladder • Palpable bladder • Tenderness/pain in bladder 	• Urologist
	Post-void Catheterization <ul style="list-style-type: none"> • Residual volume >150 ml 	• Urologist
Symptoms of neurogenic bladder	Medical history <ul style="list-style-type: none"> • Neurologic disease • Spinal trauma • Diabetes 	• further assessment
	Neurologic exam <ul style="list-style-type: none"> • Anal reflex • Anal sphincter tone • Saddle sensation 	• Neurologist
Pelvic Mass	Urinalysis <ul style="list-style-type: none"> • Pregnancy test 	• Gynecologist
	Pelvic exam (including bi-manual) <ul style="list-style-type: none"> • Adenopathy • Ascites • Palpable mass • Costovertebral Angle (CVA) tenderness • compression of the cervix • adnexal or uterine enlargement • tenderness with vulvar or vaginal lesions, • rectovaginal compression or blood in the rectum 	• Gynecologist

More information is available online: www.sasksurgery.ca/provider/pelvicfloor.html

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¹ www.cua.org/guidelines_e.asp

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