

MEDICAL NUTRITION THERAPY GUIDELINES FOR THE MANAGEMENT OF URINARY TRACT INFECTIONS

Note: The following guideline is intended to be a template for healthcare organizations to develop their own facility-specific nutrition therapy guidelines for the management of urinary tract infections. The recommendations in these guidelines are a general guide to appropriate clinical practice, to be implemented by qualified health professionals subject to their clinical judgment of each individual case and in consideration of the patient's personal preferences and available resources. The guideline should be implemented in a culturally aware and respectful manner in accordance with the principles of protection, participation and partnership. The products named herein are used as examples; use of these products is subject to clinical judgment. This document may be edited per facility needs.

Background:

Urinary tract infections (UTIs) are bacterial infections, which are more common in women due to their short urethral length that allows bacteria to enter the bladder easier than in males. Individuals with conditions affecting the nerve supply or immune system, such as diabetes, multiple sclerosis, Parkinson, stroke or spinal cord injury are at a greater risk for UTIs. Diabetes not only weakens the immune system but long-term high blood sugar can damage the kidneys' filtering system (diabetic nephropathy).

Urinary catheters provide a physical vehicle to transport bacteria from outside directly into the bladder thus increasing the potential for urinary infections. Men with prostate enlargement, which may lead to obstruction of the normal flow of urine out of the bladder and into the urethra, are also prone to UTIs.

The prevalence of UTIs increases with age and are one of the most common bacterial infections in nursing home residents. With advancing age the female/male ratio for UTIs increases to 2:1 and recurrent complicated infections are more common in older adults compared to younger adults. The diagnosis of symptomatic UTI is difficult especially in older adults with dementia when the most prevalent clinical symptoms of infection are increased confusion, falls, changes in appetite and functional status.

Policy:

The interdisciplinary team in collaboration with the registered dietitian nutritionist (RDN) will implement the medical nutrition therapy (MNT) plan to assure optimal urinary tract health for all residents/patients. The goal is to manage urinary tract infections (UTIs) through the utilization of a medical food as part of a comprehensive care plan. A medical food is defined "a food which is formulated to be consumed or administered enterally under the supervision of a physician and which is intended for the specific dietary management of a disease or condition for which distinctive nutritional requirements, based on recognized scientific principles, are established by medical evaluation."³

UTI-Stat®* is a low volume proprietary protection complex of 5 key ingredients that is clinically shown in two studies to manage UTIs.^{1,2} Table 1 describes the role of the ingredients in UTI-Stat®.

UTI-Stat® will be provided when the following conditions are present: primary or recurrent UTI (symptomatic or asymptomatic) and for prophylaxis in individuals at high risk for infections. The following steps are intended to assist in the management of UTI's as part of the individual's comprehensive care plan.

PROCEDURE FOR INDIVIDUALS AT UTI RISK:

1. The nursing staff will review the following risk factors to identify individuals at risk for UTI's:

- Poor fluid intake less than 1000 mL/day
- Catheterization
- Two or more UTIs in the past 6 months
- Incontinence
- Urinary retention/enlarged prostate
- Orders for prophylactic antibiotics
- Diagnosis: Diabetes, stroke, Parkinson, multiple sclerosis, spinal cord injury

2. The nursing staff will identify individuals at high risk for UTIs and initiate the following MNT plan.

- Notify the RDN of individuals at high risk
- Recommend physician order UTI-Stat®, 30 mL, 1-2 servings daily.
- Consult with physician and /or pharmacist when individual is on warfarin therapy
- Nursing staff and/or registered dietitian nutritionist will explain to the individual/family the importance of consuming UTI-Stat® in addition to increasing total fluid intake and support their informed choice.
- Document the individual's understanding and decisions in regards to the UTI management plan.
- Administer UTI-Stat® orally with medication pass or through enteral feeding as ordered.
- Document the intervention in the care plan
- Interdisciplinary team will encourage individual to consume fluids between meals in addition to fluids at meals
- Monitor and document acceptance of UTI-Stat® and response to the intervention in the medical record
- Nursing staff in collaboration with the registered dietitian nutritionist will monitor fluid intake and document UTI intervention in the medical record

Note:

Exclusion criteria include individuals:

- With active urinary stone disease
- Allergic to cranberry products

PROCEDURE FOR INDIVIDUALS WITH A UTI:

1. The nursing staff will notify the registered dietitian nutritionist promptly (per facility policy) when an individual is diagnosed with a UTI. Nursing staff will implement UTI management procedures and MNT per facility policy.

2. The RDN will assess, and document the following information in the medical record:

- Current daily fluid intake
- Ability to consume thin liquids or thickened liquids, if ordered
- Adverse events i.e. diarrhea, nausea, stomach cramps
- Presence of additional infections such as C-diff
- Allergy to cranberry products
- Current orders for UTI products such as cranberry tablets or cranberry juice
- Orders for vitamin C
- Diagnoses related to the UTI management

3. Nursing staff in collaboration with the registered dietitian nutritionist will implement the following MNT plan.
- Recommend physician order UTI-Stat®, 30 mL bid for four weeks, then up to two times daily to help manage recurrence.
 - Recommend the physician hold or discontinue current orders for UTI products (cranberry juice, cranberry tablets, Vitamin C)
 - Nursing staff and/or registered dietitian nutritionist will explain to the individual and/or family the importance of consuming UTI-Stat® and support their informed choice
 - Document the individual understanding of the MNT plan
 - Administer UTI-Stat® orally with medication pass or by feeding tube
 - Document intervention in the individual's care plan
 - Interdisciplinary team will encourage individual to drink fluids between meals to increase consumption
 - Nursing staff will monitor and document acceptance of UTI-Stat® & response to the intervention in the medical record
 - Nursing staff in collaboration with the registered dietitian nutritionist will monitor fluid intake and document UTI intervention in the medical record

Table 1. UTI-Stat®, a proprietary protection complex that includes:⁴⁻⁸	
Ingredients	Function
1. Cranberry Concentrate	Anti-adhesion of bacteria to urinary tract wall
2. Vitamin C	Creates less tolerable environment for bacteria to grow, lowers the pH, maintaining urine acidity
3. D-Mannose	Anti-adhesion of bacteria to urinary tract wall
4. FOS (Fructo-OligoSaccharide)	Stimulates the growth of beneficial intestinal bacteria
5. Bromelain	Maintains the body's normal inflammatory response

1. Posthauer ME. *The Director*. 2008;16:13-16.

2. Efros M, et al. *Urology*. 2010;76:841-5.

3. US Food & Drug Administration. 2015.

<http://www.fda.gov/food/guidanceregulation/guidancedocumentsregulatoryinformation/medicalfoods/default.htm>. Accessed Nov 16, 2015.

4. Wang CH, et al. *Arch Intern Med*. 2012;172:988-996.

5. Ofek I, et al. *Scand J Infect Dis Suppl*. 1982;33:61-7.

6. Carlsson S, et al. *Nitric Oxide*. 2001;5:580-6.

7. Cummings JH, et al. *Am J Clin Nutr*. 2001;73:415S-420S.

8. Mori S, et al. *Acta Obstet Gynaecol Jpn*. 1972;19:147-53.

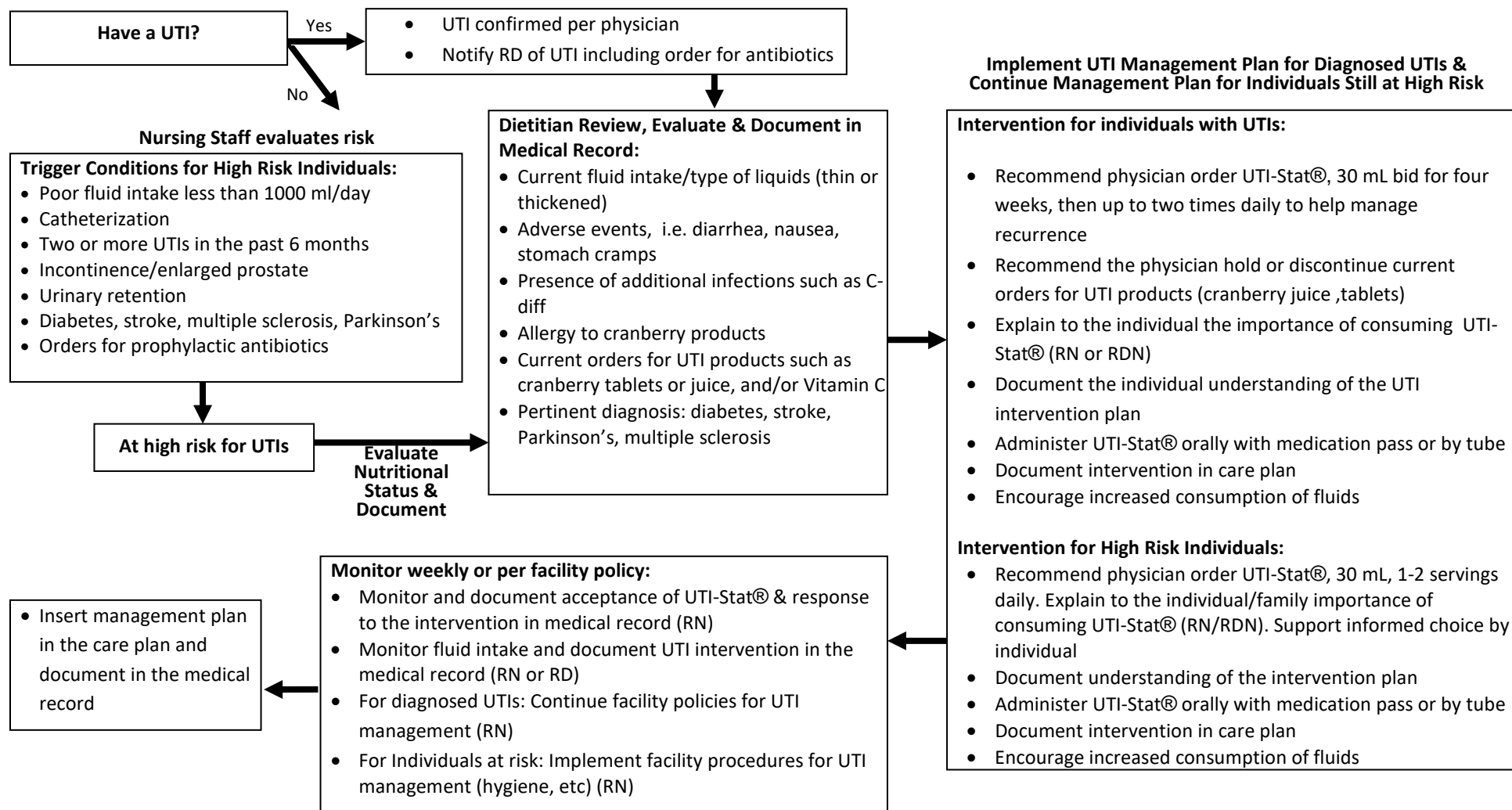
*UTI-Stat is a registered trademark of N.V. Nutricia.

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Guide for the Management of Urinary Tract Infections (UTIs)

Figure 1.



**Note:* Exclusion criteria include individuals with active urinary stone disease and anyone with an allergy to cranberry products. Consult your healthcare professional for patients on warfarin therapy. UTI-Stat® is not a substitute for antibiotics.