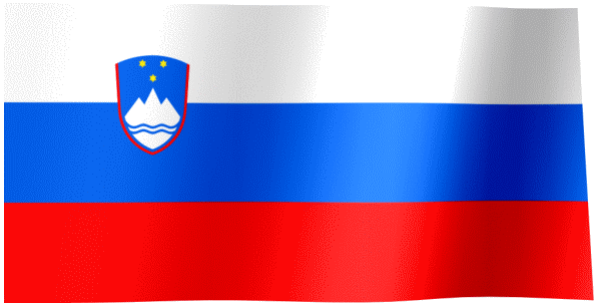
mag. Sergeja Gregorčič, dr. med.

Podiplomski tečaj protimikrobnega zdravljena

Ljubljana, junij 2025

POSEBNOSTI OKUŽB PRI STAROSTNIKU



≥ 65 let

453.708

(21,4%)

leta 2023

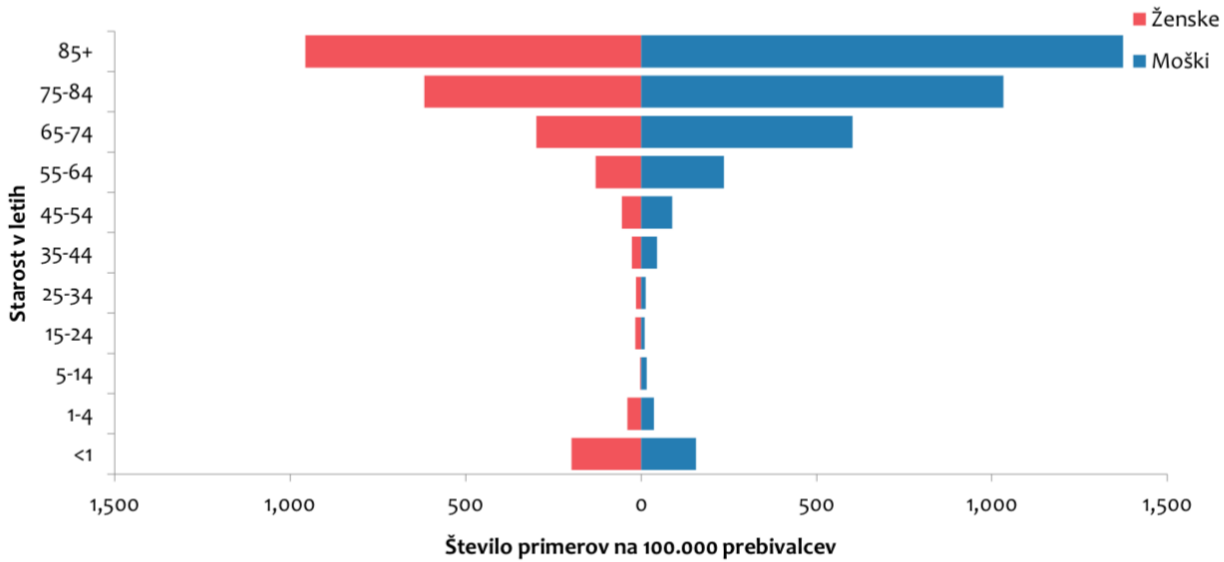
Tabela 9: Struktura porabe antibiotikov, predpisanih na recept na nivoju ATC 3 po petletnih starostnih skupinah v številu izdanih receptov na tisoč prebivalcev (Rp/1000 prebivalcev) v Sloveniji v letu 2023

Št. Rp / 1000 preb	SKUPAJ J01	J01A Tetraciklini	J01C Betalaktamski antibiotiki, penicilini	J01D Drugi betalaktamski antibiotiki	J01E Sulfonamidi in trimetoprim	J01F Makrolidi, linkozamidi in streptogramini	J01G Aminoglikozidni antibiotiki	J01M Kinolonske protimikrobne učinkovine	J01X Druge protimikrobne učinkovine
VSE STAROSTI	**494,13**	**6,89**	**288,66**	**12,51**	**25,08**	**74,03**	**0,03**	**38,48**	**48,45**
do 1. leta	432,85		361,99	17,01	34,83	12,17		0,12	6,75
1-4 leta	1068,62	0,03	943,09	29,83	33,34	55,08	0,09	0,06	7,10
5-9 let	689,94	0,08	609,41	13,92	12,80	49,86	0,03	0,30	3,53
10-14 let	269,92	1,85	222,81	4,23	7,14	29,44	0,16	1,06	3,24
15-19 let	262,10	10,93	165,77	4,45	15,96	38,30	0,03	5,50	21,17
20-24 let	320,29	12,10	187,92	7,22	12,75	47,72	0,10	12,53	39,95
25-29 let	381,64	10,58	229,61	9,40	12,16	62,33	0,05	15,52	41,99
30-34 let	430,31	8,22	268,95	9,40	11,86	78,90	0,02	16,26	36,71
35-39 let	422,36	7,94	255,90	8,12	13,86	80,27	0,01	19,21	37,06
40-44 let	385,29	7,37	219,13	6,38	17,07	74,12		22,61	38,62
45-49 let	371,67	7,33	200,64	6,72	19,04	72,01		25,45	40,49
50-54 let	400,42	6,62	210,81	6,99	22,22	75,40		32,68	45,68
55-59 let	454,25	6,38	231,59	9,03	27,26	86,32	0,03	41,42	52,22
60-64 let	492,56	6,35	240,97	10,56	32,56	89,36	0,03	54,61	58,11
65-69 let	530,28	6,86	242,30	13,21	39,38	90,16		69,55	68,82
70-74 let	586,38	5,65	256,15	17,80	43,08	93,26	0,09	86,01	84,34
75-79 let	652,47	5,65	272,52	23,49	50,28	93,81	0,03	103,74	102,97
80-84 let	759,91	5,09	324,19	33,02	56,70	94,22		127,52	119,17
85+ let	979,12	4,43	432,67	53,93	64,89	105,82		164,30	153,09

NIJZ. Poraba protimikrobnih zdravil v sloveniji v letu 2023

Breme okužb

Slika 1: Število prvih primerov invazivnih okužb z bakterijami, ki jih spremljamo v EARS-Net* na 100.000 prebivalcev po starosti in spolu, Slovenija, 2021



**Escherichia coli, Klebsiella pneumoniae, Pseudomonas aeruginosa, Acinetobacter spp., Staphylococcus aureus, Enterococcus faecalis, Enterococcus faecium in Streptococcus pneumoniae.*

Hospitalizacije po 65 letu

Sprejemi iz domačega okolja; povprečna starost 81 let, hospitalizacija 6 dni
EU: Francija, Nemčija, Italija, Španija; dec 2020-dec 2023

VZROK SPREJEMA	Sprejmi ICU	Potreba po MV	SMRTNOST			Cepljenje pnevmokok	Cepljenje gripa
			H	M3	M6		
okužbe (826)	5,5%	5,5%	5,2%	13,3%	19,6%	53,2%	82,1%
neinfekcijski vzroki (1142)	3,5%	1,7%	3,1%	11,0%	17%	50%	81,5%

Okužbe najpogostejši razlog sprejema, preventiva!!!!!

N. Veronese et al. Clinical Microbiology and Infection 31 (2025) 847e854

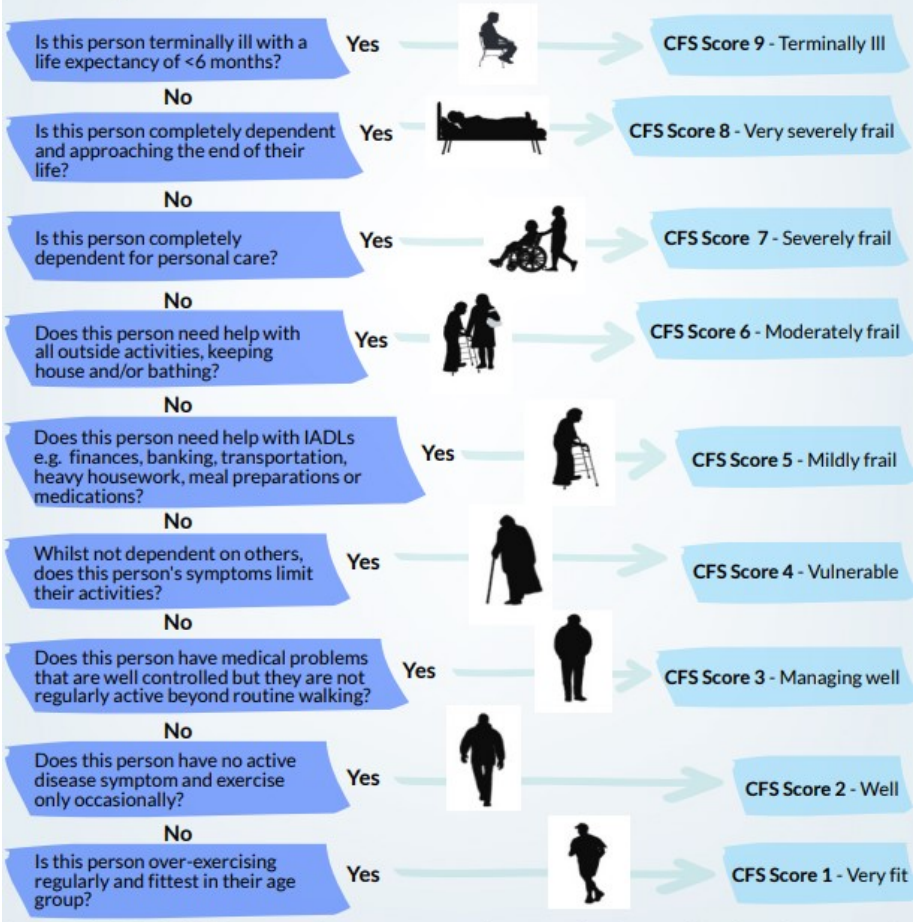
Kakšna je bila pri nas najvišja precepljenost pri starostnikih proti gripi?

Activities of Daily Living (ADLs)

Acute Frailty Network

The Clinical Frailty Scale (CFS)

A Quick Reference Guide - Flowchart



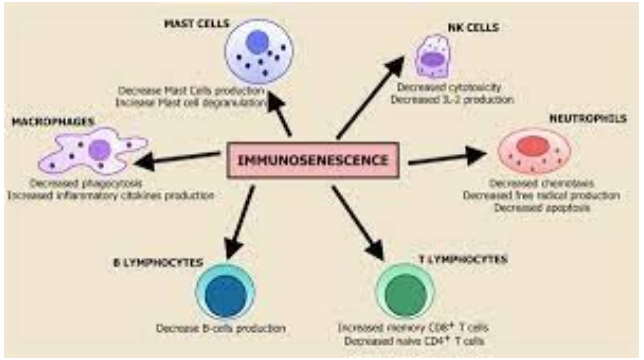
Severe Frailty CFS 7-9 Think about supportive care versus cure, advance care planning, recognition that enhanced supportive care is an active intervention in itself offering improved quality of life and, sometimes quantity of life. Comprehensive Geriatri Assessment must be completed.

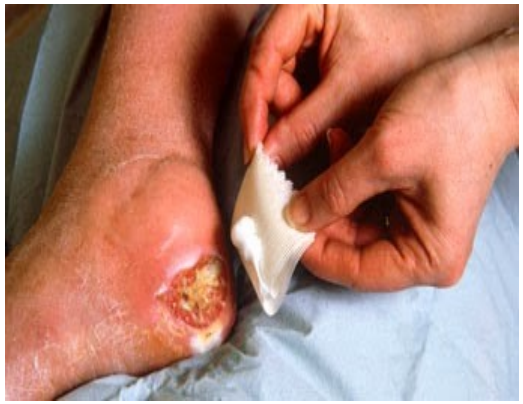
Moderate Frailty CFS 6 Actively seek out and manage frailty syndromes e.g. falls, fragility fractures, cognitive impairment, continence and/or polypharmacy issues. Use the 4AT to screen for delirium in patients with dementia and/or delirium. The presence of one or more frailty syndromes should trigger Comprehensive Geriatric Assessment (CGA).

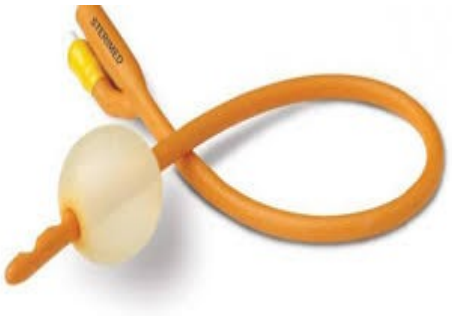
Fit/Mild Frailty CFS 1-5 Plan care as usual but address reversible issues such as sarcopenia and nutrition. Consider social prescribing and where relevant, e.g. elective care, make a plan for "prehabilitation".

Align this with guidance on management of Acute Frailty at www.acutefrailty.org.uk

A version of the CFS is now available on the App Store, designed to help frontline staff calculate a clinical frailty score.


MAST CELLS
Decrease Mast Cells production
Increase Mast cell degranulation
NK CELLS
Decreased cytotoxicity
Decreased IL-2 production
MACROPHAGES
Decreased phagocytosis
Increased inflammatory citokines production
IMMUNOSENESCENCE
NEUTROPHILS
Decreased chemotaxis
Decreased free radical production
Decreased apoptosis
B LYMPHOCYTES
Decrease B-cells production
T LYMPHOCYTES
Increased memory CD8+ T cells
Decreased naive CD4+ T cells





Klinična slika

Neznačilna:

- kognitivno poslabšanje
- padci
- splošna oslabelost
- inapetenca
- sklepno-mišične bolečine

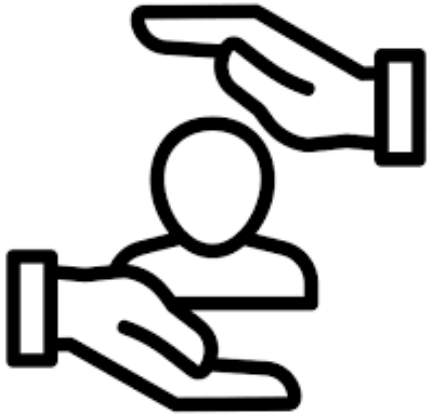
Diagnostika

- pregled
- krvne in urinske preiskave
- slikovne preiskave
- mikrobiološka diagnostika

Zdravljenje

- antibiotik
- pomen podatka o kolonizaciji

- simptomatsko zdravljenje

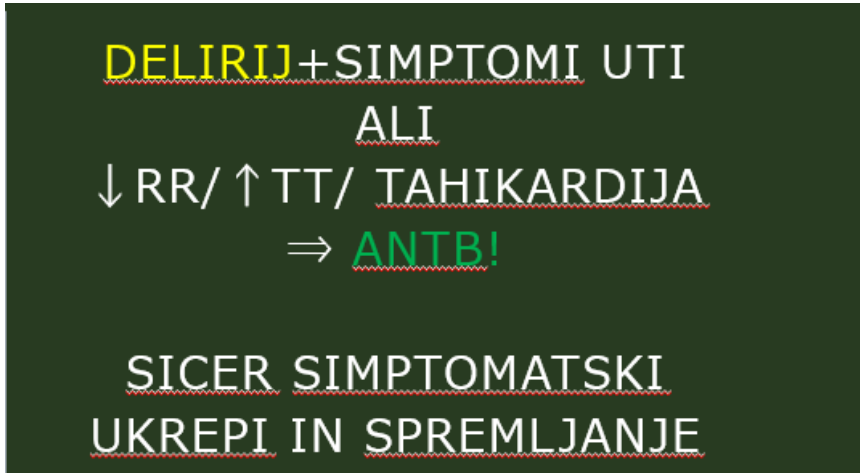


- Okužbe sečil
- Pljučnica
- Okužbe kože in mehkih tkiv
- Klostridijska driska

Okužbe sečil

- Asimptomatska bakteriurija
- Najpogostejši razlog bakteriemije pri starostniku
- Okužbe sečil ob stalnem urinskem katetru

KDAJ antibiotik?



V. In an Older, Functionally or Cognitively Impaired Patient, Which Nonlocalizing Symptoms Distinguish ASB From Symptomatic UTI?

Recommendations

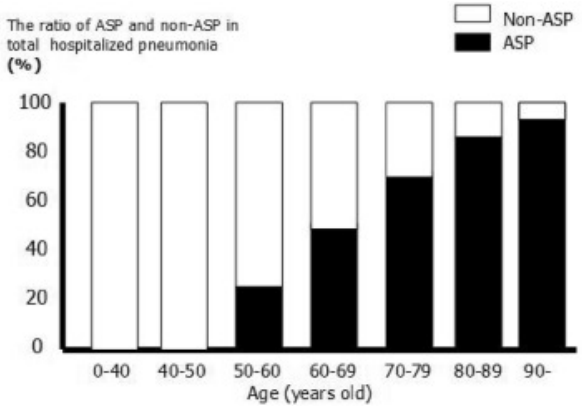
1. In older patients with functional and/or cognitive impairment with bacteriuria and delirium (acute mental status change, confusion) and without local genitourinary symptoms or other systemic signs of infection (eg, fever or hemodynamic instability), we recommend assessment for other causes and careful observation rather than antimicrobial treatment (*strong recommendation, low-quality evidence*).

2. In older patients with functional and/or cognitive impairment with bacteriuria and without local genitourinary symptoms or other systemic signs of infection (fever, hemodynamic instability) who experience a fall, we recommend assessment for other causes and careful observation rather than antimicrobial treatment of bacteriuria (*strong recommendation, very low-quality evidence*). **Values and preferences**: This recommendation places a high value on avoiding adverse outcomes of antimicrobial therapy such as CDI, increased antimicrobial resistance, or adverse drug effects, in the absence of evidence that such treatment is beneficial for this vulnerable population. **Remarks:** For the bacteriuric patient with fever and other systemic signs potentially consistent with a severe infection (sepsis) and without a localizing source, broad-spectrum antimicrobial therapy directed against urinary and nonurinary sources should be initiated.

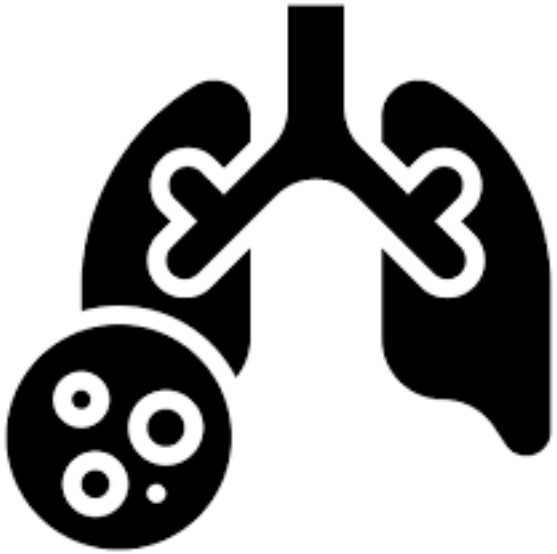
IDSA. Lindsay E.N., et al. Clinical Infectious Diseases, 2019.
Dutta C, et al. Cureus. 2022.

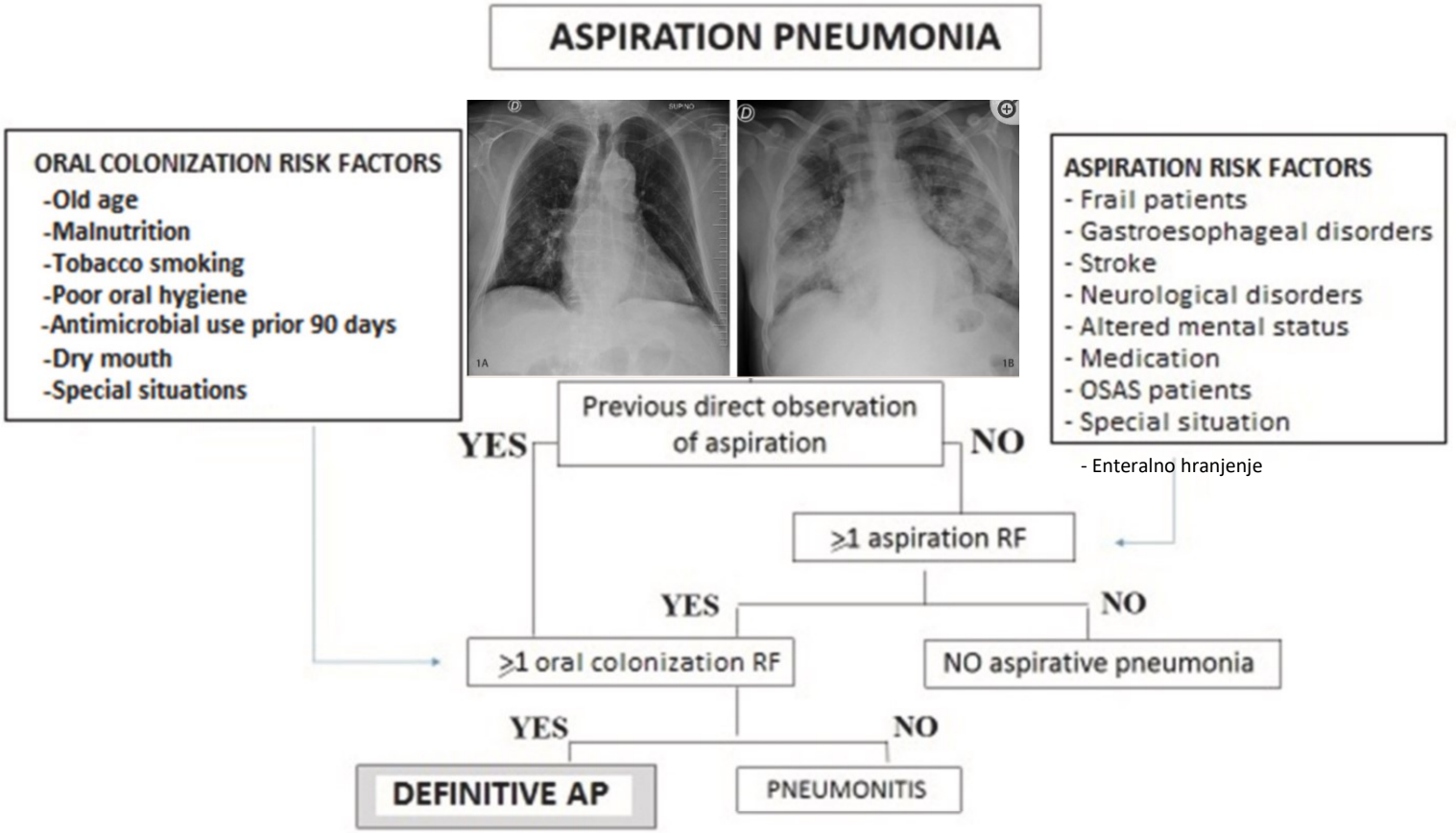
Pljučnica

- Bolezen starostnika?
- Cepljenje proti pnevmokoku/gripi
- Aspiracije



S. Teramoto, *et al.* J Am Geriatr Soc, 2008.





Almirall J, et al. Aspiration pneumonia: A renewed perspective and practical approach. Respir Med. 2021.

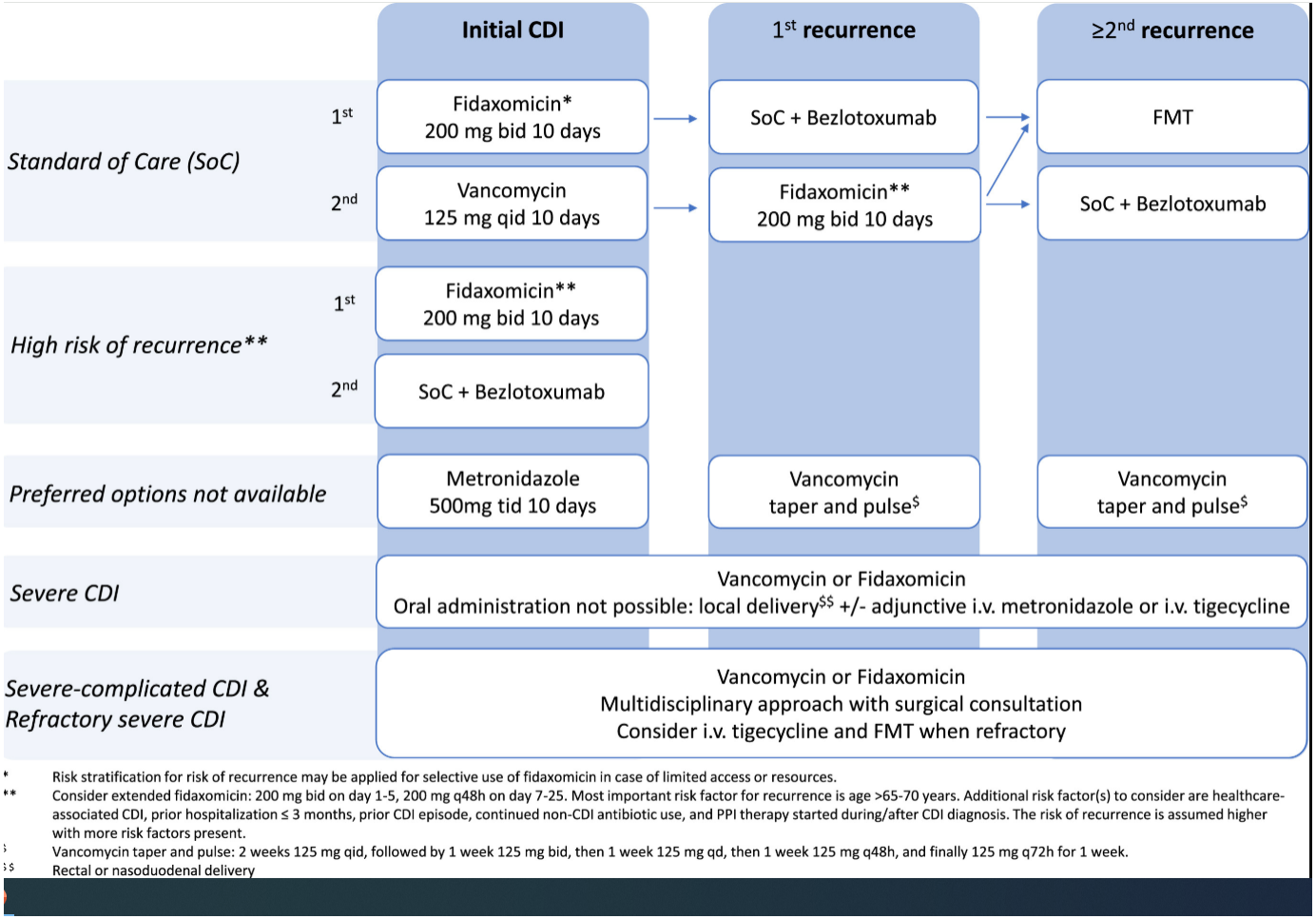
Okužbe kože in mehkih tkiv

- Mikrobiološka diagnostika
- Kolonizacija - okužba
- Sistemska antibiotična terapija

POGOSTJŠE ENTITETE
- Preležanine
- Diabetično stopalo
- Pasovec

Klostridijska driska

- Dejavniki tveganja
- Diagnostika
- Zdravljenje



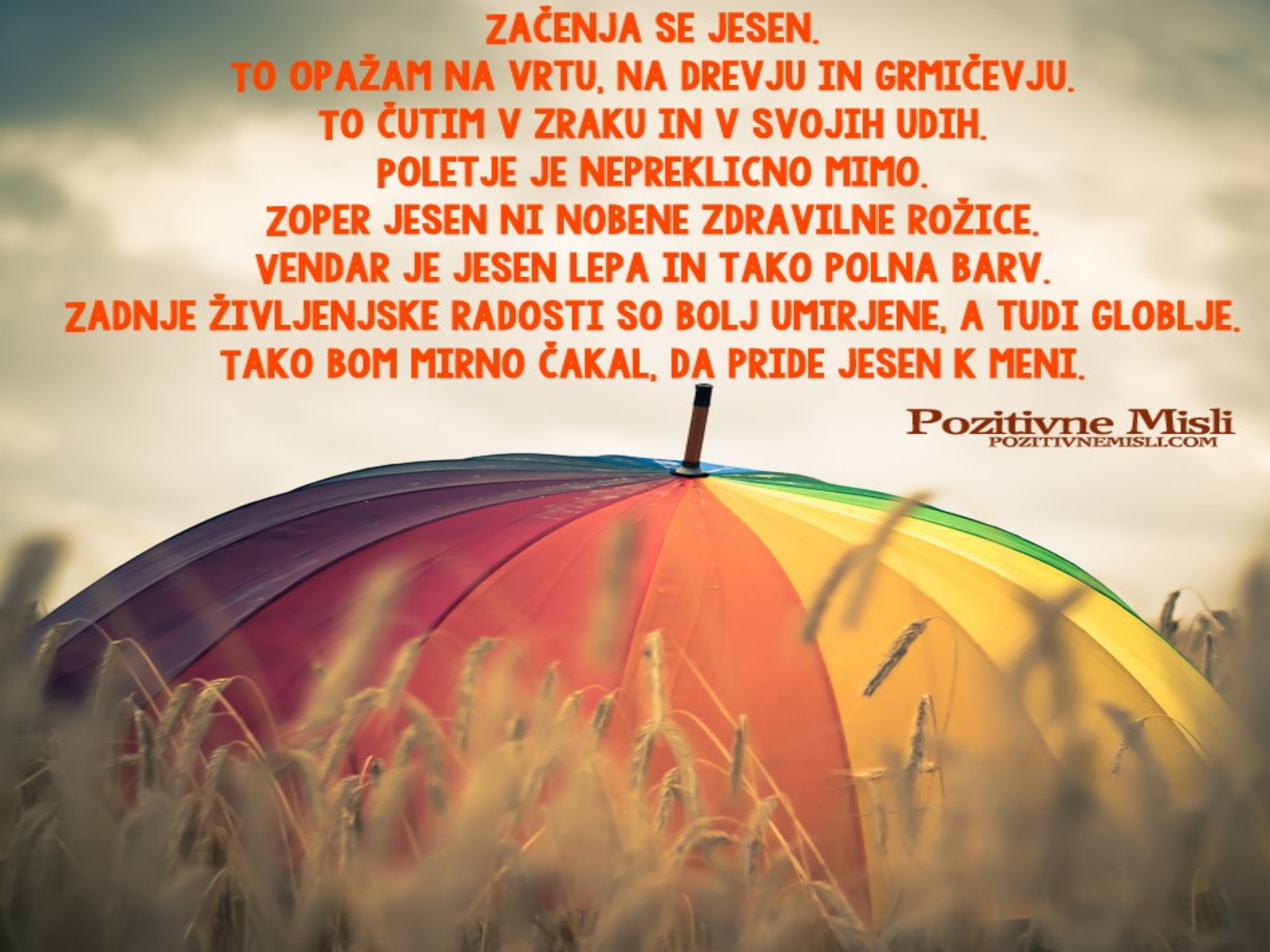
* Risk stratification for risk of recurrence may be applied for selective use of fidaxomicin in case of limited access or resources.

** Consider extended fidaxomicin: 200 mg bid on day 1-5, 200 mg q48h on day 7-25. Most important risk factor for recurrence is age >65-70 years. Additional risk factor(s) to consider are healthcare-associated CDI, prior hospitalization ≤ 3 months, prior CDI episode, continued non-CDI antibiotic use, and PPI therapy started during/after CDI diagnosis. The risk of recurrence is assumed higher with more risk factors present.

$ Vancomycin taper and pulse: 2 weeks 125 mg qid, followed by 1 week 125 mg bid, then 1 week 125 mg qd, then 1 week 125 mg q48h, and finally 125 mg q72h for 1 week.

$$ Rectal or nasoduodenal delivery

ESCMID, 2021


ZAČENJA SE JESEN.
TO OPAŽAM NA VRTU, NA DREVJU IN GRMIČEVJU.
TO ČUTIM V ZRAKU IN V SVOJIH UDIH.
POLETJE JE NEPREKLICNO MIMO.
ZOPER JESEN NI NOBENE ZDRAVILNE ROŽICE.
VENDAR JE JESEN LEPA IN TAKO POLNA BARV.
ZADNJE ŽIVLJENJSKE RADOSTI SO BOLJ UMIRJENE, A TUDI GLOBLJE.
TAKO BOM MIRNO ČAKAL, DA PRIDE JESEN K MENI.
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