



# Prevenција osteoporoze

## Prevention of osteoporosis

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### Apstrakt

Osteoporoza predstavlja skeletno oboljenje sa poremećenom koštanom čvrstinom koje dovodi do povećanog rizika za pojavu preloma. Deli se na primarnu osteoporozu, koja uključuje postmenopauzalnu i senilnu, i sekundarnu osteoporozu, koja ima jasno definisane etiološke mehanizme (malapsorpcija, primena glukokortikoida, hiperararatiroidizam). Osteoporoza i povećani rizik za prelome su među najčešćim posledicama starenja kod žena. Ova bolest je u svetu dostigla pandemijske razmere, a da bi se uspešno smanjilo opterećenje javnog zdravlja, nužno je razviti strategije koje omogućavaju raniju identifikaciju žena koje su na riziku od preloma i omogućiti sigurnost i efikasnost preventivnih mera. Faktori rizika za osteoporozu su, pored starosti i ženskog pola, takođe i genetika, postmenopauzalni status, hipogonadizam ili prevremena insuficijencija jajnika, nizak indeks telesne mase, etnička pripadnost, reumatoidni artritis, niska koštana mineralna gustina, nedostatak vitamina D, nizak unos kalcijuma, pušenje, alkohol, imobilizacija i dugotrajna upotreba određenih lekova, kao što su glikokortikoidi, antikoagulansi, antikonvulzivi, inhibitori aromataze, hemoterapijski lekovi za kancer i agonisti hormona koji oslobađaju gonadotropin. Prevencija pojave osteoporoze uklanjanjem pomenutih faktora rizika na koje se može uticati, selekcija osoba sa visokim rizikom za frakturu i rano postavljanje dijagnoze su od presudnog značaja u borbi protiv osteoporotskih preloma. Strategije prevencije i lečenja osteoporoze i osteoporotskih preloma uključuju sledeće mere: izbegavanje pada korekcijom vidne oštine, smanjenje potrošnje lekova koji menjaju budnost i ravnotežu, smanjenje opasnosti od pada kod kuće (uklanjanje klizavih podova, prepreka, nedovoljne svetlosti), izvođenje vežbi za poboljšanje mišićne snage, ravnoteže i održavanje koštane mase, prestanak pušenja i prekomernog unosa alkohola, adekvatan unos proteina, kalcijuma i vitamina D.

Sistemska osteoporoza i povećana stopa osteoporotičnih preloma su karakteristični za hronične inflamatorne bolesti kao što su reumatoidni artritis, spondiloartritis, sistemski eritemski lupus, hronične inflamatorne bolesti creva i hronična opstruktivna bolest pluća. Kod većine ovih pacijenata, pored ostalih lekova, u terapiji se primenjuju i glukokortikoidi, koji nezavisno od drugih činilaca, imaju štetno delovanje na koštani metabolizam. Godine 2017. objavljene su najnovije ACR preporuke za prevenciju i lečenje glukokortikoidima indukovane osteoporoze. Preporuke lečenja osteoporoze uključuju, kod odraslih osoba sa niskim rizikom za prelom, lečenje samo kalcijumom i vitaminom D, dok kod odraslih osoba sa umerenim i visokim rizikom za prelom, lečenje kalcijumom i vitaminom D, uz dodatno lečenje osteoporoze, pri čemu su oralni bisfosfonati prva linija lečenja glukokortikoidima indukovane osteoporoze.

### Abstract

Osteoporosis is a skeletal disease with impaired bone strength that leads to an increased risk of fractures. It is divided into primary osteoporosis, which includes postmenopausal and senile, and secondary osteoporosis, which has clearly defined etiological mechanisms (malabsorption, glucocorticoid use, hyperthyroidism). Osteoporosis and an increased risk of fractures are among the most common consequences of aging in women. This disease has reached pandemic proportions in the world, and in order to successfully reduce the burden on public health, it is necessary to develop strategies that enable earlier identification of women at risk of fracture and enable the safety and effectiveness of preventive measures. Risk factors for osteoporosis include genetics, postmenopausal status, hypogonadism or premature ovarian failure, low body mass index, ethnicity, rheumatoid arthritis, low bone mineral density, vitamin D deficiency, low calcium intake, and smoking. alcohol, immobilization, and long-term use of certain medicines, such as glucocorticoids, anticoagulants, anticonvulsants, aromatase inhibitors, cancer chemotherapeutic drugs, and gonadotropin-releasing hormone agonists. Prevention of osteoporosis by removing the mentioned risk factors that can be influenced, selection of persons at high risk for fracture, and early diagnosis are crucial in the fight against osteoporotic fractures. Strategies for prevention and treatment of osteoporosis and osteoporotic fractures include the following measures: avoiding falls by correcting visual acuity, reducing the consumption of drugs that change alertness and balance, reducing the risk of falls at home (removing slippery floors, obstacles, insufficient light), performing exercises to improve muscle strength, balance and maintenance of bone mass, smoking cessation and excessive alcohol intake, adequate intake of protein, calcium and vitamin D.

Systemic osteoporosis and an increased rate of osteoporotic fractures are characteristic of chronic inflammatory diseases such as rheumatoid arthritis, spondyloarthritis, systemic lupus erythematosus, chronic inflammatory bowel disease, and chronic obstructive pulmonary disease. In most of these patients, in addition to other drugs, glucocorticoids are used in therapy, which, independently of other factors, have a detrimental effect on bone metabolism. In 2017, the latest ACR recommendations for the prevention and treatment of glucocorticoid-induced osteoporosis were published. Recommendations for the treatment of osteoporosis include calcium and vitamin D treatment alone in low-risk adults for fracture, while calcium and vitamin D treatment in adults with moderate and high risk for fracture with additional osteoporosis treatment, with oral bisphosphonates inducing glucocorticoid-induced first-line treatment. osteoporosis.