



Healthcare Professionals Newsletter

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FLYING THE FLAG ON REAL FOOD FOR BONE MAINTENANCE

WHO WOULD HAVE THOUGHT THAT PRUNES WOULD BE PART OF THE REAL FOOD FIGHT TO HELP PROTECT OUR BONES?... Genetics play a role in the size and strength of our bones, and healthy living can help maximise them further with regular weight-bearing exercise; a well-balanced diet; and healthy lifestyle practices including maintaining a healthy weight, not smoking or drinking excessive alcohol¹. What's more California prunes can be part of this bone health strategy!

Research into the role of prunes in bone health continues to grow, with human, animal, in vitro studies and research reviews. Whilst research continues to explore the mechanisms by which prunes may benefit bone health, and whether it is specific nutrient components in the prunes, or the whole package that is important, we already know that prunes are high in vitamin K and a source of manganese, two nutrients that contribute to the maintenance of normal bones; and they are also high in potassium, which contributes to normal muscle function.

Furthermore, reviews by Arjmandi (2017)² concludes: 'it is likely that there are additive and/or synergistic effects among these [bioactive] compounds [in prunes]', and Wallace (2017)³ concludes that these 'may in part be due to the unique variety of phenolics and nutrients present'.



"More than three million people in the UK are estimated to have osteoporosis, a condition that causes around 500,000 broken bones every year - that's one every minute."⁴



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SUPPORTING YOUR SUPPORTING STRUCTURE: NUTRITIONAL STRATEGIES TO LIVE STRONG

Leslie Bonci MPH, RD, CSSD, LDN, sports nutrition consultant and owner of Active Eating Advice, recently presented her talk at the Osteoporosis Conference 2018, Birmingham, UK and here we provide a summary with link to her full presentation.

Leslie provided a comprehensive insight into the importance of nutrition/nutrients and the role of exercise in maximising bone strength and maintaining bone health, with a focus on prunes and relevant and ongoing prune research. Some key messages from her presentation include:

Prioritise for bone health

- Eat to support healthy bones.
- Be aware of **bone-robbing behaviours** such as sedentary lifestyle, nutrient poor diets, smoking and alcohol.
- Focus on **bone builders**.
- Think beyond the 'pill' bottle and consider the plate – food as the entrée and supplements as the sides.
- **Physical activity** is AS important as the hand to mouth exercise.

Role of prunes in bone health

- Prunes are high in vitamin K and a source of manganese, which contributes to normal bones.
- Prunes consumption is beneficial in maintaining skeletal health.
- 50g or 100g prunes daily can significantly improve total BMD compared to control⁵, reducing the risk of osteoporotic fracture.

- Prunes contain polyphenols which research suggests act as free radical scavengers, suppressing the rate of bone loss^{6,7}.
- Adding prunes to the diet (100g/day = 240 kcal) did not significantly affect body weight⁵.

The **National Osteoporosis Society** (<https://nos.org.uk/>) is a UK charity with four key aims: Prevention, Care, Support and Cure. They work with individuals affected by osteoporosis and health care professionals to improve the bone health of our nation and prevent osteoporosis. They work to influence healthcare providers and professionals to deliver high quality healthcare so that people are assessed and treated for osteoporosis earlier by providing

the best information, support and services to help people with osteoporosis live well; and work to drive the research and development of new treatments and therapies that will ultimately beat osteoporosis. The National Osteoporosis Society, *Your bone strength*, includes useful information on healthy eating for strong bones beyond vitamin D and calcium. Available at: <https://nos.org.uk/about-osteoporosis/your-bone-strength/>.



Leslies presentation can be downloaded here: <https://www.californiaprunes.co.uk/wp-content/uploads/nutritionist/Osteoporosis-2018-Leslie-Bonci.pdf>

Listen to Leslies radio interview about healthy eating over the Christmas holidays: <https://www.youtube.com/watch?v=W8Pfl6cnfrM&feature=youtu.be>

Want to learn more? Check out the research:

For a summary of prunes research including the wide range of human, animal and in vitro bone health studies please visit <https://www.californiaprunes.co.uk/wp-content/uploads/nutritionist/Prune-Research-Abstracts.pdf> and a Wholefoods Approach to Osteoporosis Prevention⁹, paper freely available at <https://online.boneandjoint.org.uk/doi/full/10.1302/2058-5241.2.160079>



BONE FRIENDLY RECIPES

OUR CHEF AMBASSADOR PETER SIDWELL DEVELOPED TWO RECIPES FOR USE AT THE OSTEOPOROSIS CONFERENCE BREAKTIMES. As part of the EU nutrition and health claims regulations⁸, there are 10 key nutrients that are beneficial for normal bone health (*calcium is needed for the maintenance of normal bones; magnesium, manganese, phosphorus, protein, vitamin D, A & K, and zinc all contributes to the maintenance of normal bones; and vitamin C contributes to normal collagen formation for the normal function of bones*). See below how these recipes can be useful for normal bones!

Granola flapjack with California prune and pumpkin seed

36 portions 15 mins prep time 20 mins bake time

Ingredients

180g olive oil-based margarine (vegan friendly)
180g California prunes
60g dried apricots
30ml California prune juice
2 lemon - juice and zest
6 tbsp pumpkin seeds
3 tbsp chai seeds
50g raisins
300g porridge oats

Method

- Place the California prunes, California prune juice, lemon juice and olive oil-based margarine into a large pan on a low heat.
- Mix all the other ingredients together.
- When the margarine mixture has melted add to the dry ingredients. Mix together and pour into a lined tray. Spread evenly and pat down to compact the mixture.
- Bake at 160°C for 20 minutes.



This flapjack recipe (per 100g) is a source of 7 of the 10 key bone health nutrients (vitamins D, K & A, magnesium, manganese, phosphorus and zinc). Serving with: a tablespoon of plain Greek yoghurt would further provide protein and calcium; and fresh fruit and/or fruit juice would provide vitamin C. These recommendations would provide all 10 of the bone friendly nutrients in significant quantities.

California prune chocolate cake

12 portions 10 mins prep time 25 mins bake time

Ingredients

70g vegetable oil
100g puree concentrate (made by blending 100g of California prunes with 25ml water)
50g cocoa powder
100g eggs
250ml soya milk
200g sugar
300g self-raising flour
100g ground almonds
1 orange zest only
20ml water
12 whole California Prunes placed on top of the cake in each portion

Method

- Mix together the vegetable oil, California prune concentrate, eggs and milk.
- In another bowl mix together the dry ingredients; sugar, flour, almonds, cocoa powder and orange zest.

- Mix the two lots of ingredients together and add the water to loosen, being careful not to over mix (you don't want to develop gluten by over mixing the ingredients).
- Spoon the mixture out into a 20cm by 10cm baking tray.
- Pour the cake batter into baking trays and bake in a pre-heated oven 180 °C for 25 minutes or until firm.

This chocolate cake (per 100g) is a source of 5 of the 10 bone health nutrients (manganese, phosphorus, calcium, magnesium and vitamin K). Serving with a tablespoon of plain Greek yoghurt would further provide vitamin A, protein and zinc; and consuming with fresh fruit and/or fruit juice would provide vitamin C. These recommendations would provide 9 of the bone friendly nutrients. This combination falls short on vitamin D, which is difficult to achieve with this recipe alone - sunlight is a recommended non-dietary means to boost vitamin D.



The California Prune Board participate in select health care professionals' conferences, and recently attended:



- **National Osteoporosis Society Conference**, Birmingham, UK, as an exhibitor, and invited Leslie Bonci to present within the innovation theatre (see summary above). The conference brought together health professionals and world-leading experts in the field of bone health to share latest research and innovative ideas to use in practice. <https://nos.org.uk/conference/>
 - **Food Matters Live**, London, UK, one of the main events of the year for health professionals, food industry and all those working with and interested in food. The California Prune Board sponsored international satiety expert Professor Graham Finlayson, University of Leeds, to present 'Dried fruit and appetite – the psychology of snacking (hedonic eating) in relation to obesity' as part of 'The Future of Satiety Enhancing Foods' conference session; and chef Peter Sidwell did a live cooking demonstration showing the versatility and taste-benefits of California prunes in the innovation kitchen. <https://www.foodmatterslive.com/>
 - **EFAD 2018**, Rotterdam, Holland, the California Prune Board sponsored and attended the European Federation of the Associations of Dietitians annual conference; and preliminary results of a California Prune Board funded UK and Ireland research project were presented for the first time by Dr Amanda Avery RD and Joanne Kingsnorth (research assistant) - 'Assessing health professional's knowledge regarding snacks, dried fruit & dental health: a survey of European dietitians and dentists'. Look out for results in 2019! <https://efadconference.com/2018/landing>
 - **Nutrition Now** conference, Amsterdam, Holland, as an exhibitor for The Netherlands national nutrition conference. <https://www.voedingnu.nl/Bijeenkomsten/Bijeenkomst-Plantaardige-voeding>
- Look out for us at future events or contact us with any queries at hcp@cpbeurope.eu.com

References:

1. National Osteoporosis Society. Your bone strength. Available at: <https://nos.org.uk/about-osteoporosis/your-bone-strength/>. [accessed 12/12/18]
2. Arjmandi B, Johnson S, Pourafshar S et al (2017) Bone-Protective Effects of Dried Plum in Post-menopausal Women: Efficacy and Possible Mechanisms. *Nutrients*. 9; 496. doi:10.3390/nu9050496
3. Wallace T (2017) Dried plums, prunes, and bone health: A comprehensive review. *Nutrients*. 9; 401. doi:10.3390/nu9040401
4. National Osteoporosis Society. Available at: <https://nos.org.uk/> [accessed 12/12/18]
5. Hooshmand S, Kern M, Mett D et al (2016) The effect of two doses of dried plum on bone density and bone biomarkers in osteopenic post-menopausal women: a randomized, controlled trial. *Osteoporosis Int*. 27; 2271– 9. DOI 10.1007/s00198-016-3524-8.
6. Graef J, Rendina-Ruedy E, Crockett E et al (2017) Select polyphenolic fractions from dried plum enhance osteoblast activity through BMP-2 signaling. *The Journal of Nutritional Biochemistry*. 55; 59–67. <https://doi.org/10.1016/j.jnutbio.2017.09.014>
7. Graef J, Rendina-Ruedy E et al (2017) Differentiation is Downregulated by Select Polyphenolic Fractions from Dried Plum via Suppression of MAPKs and Nfatc1 in Mouse C57BL/6 Primary Bone Marrow Cells. *Current Developments in Nutrition*. 1; 10. <https://doi.org/10.3945/cdn.117.000406>
8. EU Register of nutrition and health claims made on foods. Available at: <http://ec.europa.eu/nuhclaims/> [accessed 12/12/18]
9. Higgs J, Derbyshire E, Styles K (2017) Nutrition and osteoporosis prevention for the orthopaedic surgeon. 2; 300-308. DOI: 10.1302/2058-5241.2.160079. Freely available at - <http://www.efortopenreviews.org/content/2/6/300>

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