concentrations and rostoperative infections in cardiac surgical patients: The CALCITOP-Study. PLoS One 2016; 11:e0158532
29. Obi Y, Hamano T, Isaka Y: Prevalence and prognostic implications of vitamin D deficiency in chronic kidney disease. Dis Markers 2015; 2015:868961
30. Schiller A, Gadalean F, Schiller O, Timar R, Bob F, Munteanu M, Stoian D, Mihaescu A, Timar B: Vitamin D deficiency–Prognostic marker or mortality risk factor in end stage renal disease patients with diabetes mellitus treated with hemodialysis–A prospective multicenter study. PLoS One 2015; 10:e0126586
31. Zarbock A, Koyner JL, Hoste EAJ, Kellum JA: Update on perioperative acute kidney injury. Anesth Analg 2018; 127:1236–45

ANESTHESIOLOGY REFLECTIONS FROM THE WOOD LIBRARY-MUSEUM

From Hartshorn to Smelling Salts: Prodding Awake the Anesthetized...with Antlers?

Whether indigenous or introduced, red deer (*Cervus elaphus*, *left*) now roam every continent except Antarctica. Females ("hinds") and males ("stags" or "harts") segregate most of the year into bachelorette and bachelor groups, respectively. In preparation for autumn battles for a harem of hinds, each hart's antlers (*right*) start growing in the spring before shedding by end of winter. Harder than bone, their antlers have been fashioned by humans into knives and other tools for thousands of years. Antler carvers learned rather quickly not to discard leftover horn into campfires because of the resulting foul odor. However, by destructively distilling antlers into "oil of hartshorn" and then dry-distilling the latter into "salt of hartshorn," pharmacists produced ammonium carbonate, the scented alcoholic solutions of which were bottled (*middle*) for use as smelling salts to treat Victorian belles' "vapours" or physicians' unconscious patients. Spontaneously releasing ammonia, such salts or "sal volatile" could be introduced nasally or orally by finger or feather in attempts to rouse unresponsive or over-anesthetized patients. So, ironically, heating ammonium *nitrate* releases nitrous oxide, which puts patients to sleep; in contrast, heating ammonium *carbonate* releases ammonia, which wakes them up. (Copyright © the American Society of Anesthesiologists' Wood Library-Museum of Anesthesiology.)

George S. Bause, M.D., M.P.H., Clinical Associate Professor, Case Western Reserve University, Cleveland, Ohio.