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- Journal article with more than six authors: Koca SS, Kara M, Özgen M, Dayanan R, Demir CF, Aksoy K, et al. Low prevalence of obesity in Behçet’s disease is associated with high obestatin level. *Eur J Rheumatol* 2017 ; 4 (2):113-17.
- Abstract: Hortin GL, King C, Kopp J. Quantification of rhesus monkey albumin with assays for human microalbumin [Abstract]. *Clin Chem* 2000;46:A140-
- Editorial: Demers LM. New biochemical marker for bone disease: is it a breakthrough? [Editorial]. *Clin Chem* 1992;38:2169–70.
- Letter to the Editor: Davey L, Naidoo L. Urinary screen for acetaminophen (paracetamol) in the presence of N-acetylcysteine [Letter]. *Clin Chem* 1993;39:2348–9.
- Book Chapter: Rifai N, Warnick GR. Lipids, lipoproteins, apolipoproteins, and other cardiovascular risk factors. In: Burtis CA, Ashwood ER, Bruns DE, editors. *Tietz textbook of clinical chemistry and molecular diagnostics*. 4th Ed. St. Louis (MO): Elsevier Saunders; 2006. p. 903-81.
- Book: Personal Author Harrell FE Jr. *Regression modeling strategies*. New York (NY): Springer; 2001. Bailar JC III, Mosteller F, editors. *Medical uses of statistics*. 2nd Ed. Boston (MA): NEJM Books; 1992:449 p.
- Book with Single Author Cohn PF. *Silent myocardial ischemia and infarction*. 3rd ed. New York: Marcel Dekker; 1993.
- Editor(s) as author: Norman IJ, Redfern SJ, editors. *Mental health care for elderly people*. New York: Churchill Livingstone; 1996
- Technical Reports Tschantz BA, Moran B. Modeling of the hydrologic transport of mercury in the Upper East Fork Poplar Creek (UEFPC) watershed. Technical Report for Lockheed Martin Energy Systems: Bethesda, MD, September 2004.
- Supplement Castelli WP. Lipids, risk factors and ischaemic heart disease. *Atherosclerosis* 1996;124 Suppl:S1-9.
- Epub ahead of print Milbury CA, Li J, Makrigrigios GM. PCR-based methods for the enrichment of minority alleles and mutations. [Epub ahead of print] *Clin Chem* February 6, 2009 as doi:10.1373/clinchem.2008.113035.
- Internet Source: American Association for Clinical Chemistry. AACC continuing education. <http://www.aacc.org/education-and-career/continuing-education>(Accessed June 2016).

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