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# LETTER TO EDITOR

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## Re: Editorial – The Nobel Prize; An Exclamation Point for Urologic Practice: The Canadian Journal of Urology;27(2);April 2020

The April editorial in *The Canadian Journal of Urology* highlighted significant Nobel prizes that had an impact on Urology.<sup>1</sup> For over a century the urological community has benefitted from many contributions by Nobel laureates and I would like to further expand that list.

The ground-breaking investigations by Alexis Carrel in organ transplantation (Nobel Prize in Physiology and Medicine, 1912) as well as those by Gerhard Domagk (1939 for studies that became the basis for sulfa drugs- the first type of antibiotic) are noteworthy examples. More recently, Louis J. Ignarro, Robert F. Furchgott and Ferid Murad shared the Prize in 1998 for their discoveries about nitric oxide as a signalling molecule in the cardiovascular system.<sup>2</sup> The influence of their discovery in urological clinical practice and research has been extraordinary.

Werner Forßmann, a practicing clinical urologist received the distinction in 1956 for pioneering cardiac catheterizations which he first performed on himself.<sup>3</sup> Together with Charles B. Huggins (1966 for demonstrating the role of testosterone in prostate cancer) they are the two urologists so honoured.<sup>4</sup>

Among individuals recognized by the Royal Swedish Academy of Science with the Nobel Prize for work that would directly impact urologic practice, those involved in the synthesis of testosterone occupy a prominent position and are closely related to Huggins' subsequent contribution.

Briefly, in Chicago in 1927 Lamuel McGee and Fred Koch extracted from bulls' testicles a substance that "when injected into castrated animals would restore their maleness". Eight years later, almost simultaneously and independently three research teams headed by Adolf Butenandt, Károly Gyula and Leopold Ružička who were sponsored by different pharmaceutical corporations (Schering, Organon and Ciba, respectively) reported on their success in the synthesis of a testicular hormone eventually termed testosterone. They were all bestowed the Nobel Prize for Chemistry in 1939. Butenandt had to wait until the end of the war to accept the award, which he finally received in 1945.<sup>5</sup>

The wide, profound and long-lasting impact of their work still resonates powerfully today.

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