

## 1656-2006 : 350 Years of Intravenous Injection

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In the article “The history of peripheral intravenous catheters” in ACTA ANAESTHESIOLOGICA BELGICA, **56**, 271-82, 2005 (1), it is stated that the first serious attempts of intravenous administration of drugs were made in 1658 by Sir Christopher Wren (1632-1723). This date is contradictory to common historical knowledge which dates Wren's experiments back to the year 1656 and give reason to celebrate the 350<sup>th</sup> anniversary of this achievement this year. The date 1656 is supported by several earlier publications (2-5) and even by letters written to William Petty by Wren himself (4) and therefore looks most trustworthy. Additionally it should be mentioned that the further development was promoted by German scientists, namely Johann Daniel Major (1634-1693), Michael Etmüller (1644-1683) and Johann Sigismund Elsholtz (1623-1688) who wrote a landmark publication called “Clysmatica Nova”. This work, however, is not originally a “Dutch publication from 1670” (as stated in the article (1) mentioned above) but was firstly edited in Berlin (Germany) in 1665 (second and enlarged edition 1667 (6)). It shows in quite a drastic fashion how experiments were performed in the beginning (Fig. 1).

This again is an example of how imprecise historical dates can be if you do not go back to the original source. Translations also can contribute to errors (Dutch vs Deutsch).

### References

1. Rivera A. M., Strauss K. W., van Zundert A., Mortier E., *The history of peripheral intravenous catheters : How little plastic tubes revolutionized medicine*. ACTA ANAESTHESIOLOGICA BELGICA, **56**, 271-82, 2005.
2. Fortescue-Brickdal J. M., *A contribution to the history of intravenous injection of drugs*. GUYS HOSPITAL REPORTS, **58**, 15-80, 1904.
3. Buess H., *Zur Frühgeschichte der Intravenösen Injektion*. CIBA ZEITSCHRIFT, **9**, 3594-3606, 1946.
4. Bergman N. A., *Early intravenous anesthesia : an eyewitness account*. ANESTHESIOLOGY, **72**, 185-6, 1990.



Fig. 1. — Animal experiment showing drastic method of IV cannulation according to Elsholtz (Ref. # 6, 2<sup>nd</sup> ed., 1667).

5. Feldmann H., *Die Geschichte der Injektionen*. LARYNGO-RHINOOTOLOGIE, **79**, 139-46, 2000.
6. Elsholtz J. S., *Clysmatica nova, sive ratio, qua in venam sec-tam medicamenta immitti possint*. Berlin, 1665. Second enlarged edition 1667.

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