

Oxygen homeostasis and stress in the ductus arteriosus

Citation for published version (APA):

van der Sterren, S. (2016). *Oxygen homeostasis and stress in the ductus arteriosus: studies in the chicken embryo model*. [Doctoral Thesis, Maastricht University]. Maastricht University.
<https://doi.org/10.26481/dis.20160309ss>

Document status and date:

Published: 01/01/2016

DOI:

[10.26481/dis.20160309ss](https://doi.org/10.26481/dis.20160309ss)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain.
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

Stellingen behorende bij het proefschrift

**Oxygen homeostasis and stress in the ductus arteriosus.
Studies in the chicken embryo model.**

Saskia van der Sterren, maart 2016

1. The mechanisms of oxygen sensing and signaling in the ductus arteriosus are highly preserved among species (*this thesis*)
2. Both prenatal hypoxia and hyperoxia alter local vascular mechanisms, but do not impair oxygen-induced contraction of the ductus arteriosus. (*this thesis*)
3. Isoprostanes should not only be regarded as markers of oxidative stress; they are also vasoactive agents which play a role in ductus arteriosus tone and conceivably its closure. (*this thesis*)
4. Despite the clinically observed male disadvantage among preterm infants, development of the ductus arteriosus takes place at the same pace in females as in males and is not affected by sex hormones (*this thesis*)
5. Although significant progress in our understanding of the DA pathobiology has been achieved with the use of mammalian models, their complexity yields limitations which are addressed by the chicken embryo model which proves to be an excellent model to study vascular reactivity and response to O₂ in the DA, as well as developmental changes prior to term birth. (*Sutendra and Michelakis, 2007*)
6. Patent ductus arteriosus in the very preterm infant is the consequence of underdevelopment not of misdevelopment.
7. Despite a large body of basic science and clinical research and clinical experience with thousands of infants over nearly six decades, there is still uncertainty and controversy about the significance, evaluation, and management of patent ductus arteriosus in preterm infants. (*Benitz, 2016*)
8. The best prevention of neonatal morbidity and mortality would be a cure for preterm delivery
9. Somewhere, something incredible is waiting to be known - *Carl Sagan*
10. A person's a person, no matter how small - *Dr. Seuss*
11. A multitude of words is no proof of a prudent mind - *Thales of Miletus*