

CV Ola Didrik Saugstad (September 2014)

Name: Ola Didrik Saugstad

Sex: Male, Year of birth: 1947

Nationality: Norwegian

Working place: Department of Paediatric Research

Address: Oslo University Hospital, PB 4950 Nydalen, 0424 Oslo , Norway

Academic degree: MD, dr. med



Current and former positions

Professor 1 of Paediatrics, Director Department of Paediatric Research University of Oslo, Consultant of Neonatology, Oslo University Hospital, Rikshospitalet

Employment history: MD 1973, PhD 1977 from University of Oslo. Internship. 1978-79 14 months compulsory service (as prison doctor). 1979-1984 Resident in Paediatrics, Oslo University Hospital. 1986 -1991 Consultant in Neonatology 100% position at Oslo University Hospital. 1991- present 20% consultant. 1991: Professor of Paediatrics at University of Oslo and Director at Department of Paediatric Research University of Oslo, Oslo University Hospital

Description of present posts: 1 I am leader for the largest research institute in Norway on Children's somatic health. As professor I am involved in approximately 10 PhD student's theses, I am teaching medical students

Source of funding: 1) University of Oslo 2) Oslo University Hospital (20%)

Education

Medical School University of Oslo 1967-73

Research Fellow, University of Uppsala, Sweden and University of Oslo. 1973-76

Post doc University of California San Diego 1980-81

Trained paediatrician 1979-84 (Board certificate 1984)

Trained in Neonatology 1980-81 (UCSD) and 1985 (Oslo University Hospital)

Still clinical active, but stopped being on call 2006

Member of

European Society for Paediatric Research (Elected)

European Association of Perinatal Medicine (Honorary)

Society for Pediatric Research (USA) (Affiliated)

American Society of Pediatrics (Honorary)

International Academy of Perinatal Medicine (Elected)

World Academy of Art & Science (Elected)

Fellow of Royal College of Physicians Edinburgh (Elected)

Total career publications

Published more than 400 articles. 373 articles in peer reviewed journals, of these 36 reviews, are recorded in Pubmed. Saugstad is Norway's most cited pediatrician, >8000 citations. H index 44

Supervision and teaching

Main Supervisor of 34 and co-supervisor of another 5 PhD students completed. 9 PhD presently under supervision

Teaching: Medical students 20 years, Nurses, School of Midwifery etc

Lectured at a number of international meetings and courses. Given more than 300 invited lectures at international congresses and Universities. Plenary lectures at all large congresses in the field of Perinatal medicine/neonatology

Affiliation in academic and professional committees

Acted as opponent at PhD dissertations more than 20 times. Approx 10 in Norway (7 Oslo, 4 Trondheim, 1 Bergen), also in: Sweden (Uppsala 1, Lund 2, Gøteborg 2), Finland (Helsinki, Turku, Oulo), Denmark, Copenhagen1, Estonia (Tartu 1), Spain , Madrid 1. Member of committees evaluating professors approximately 10 times (Norway, Sweden, Finland, Denmark, USA).

Member of Panel evaluating clinical research University of Uppsala 2007 (KoF07) and 2011 (KoF11)

President Norwegian Society for Perinatal Medicine 1987-9

Council Member European Society Paediatric Research 1987-90

Secretary Working Group on Neonatology, European Soc Paed Res 1990-3

Board Member European Association of Perinatal Medicine 1996-2002

President and past President European Association of Perinatal Medicine 2002-4, 2004-6

Trustee International Pediatric Research Foundation 2001-4

Editor in Chief J Maternal Fetal and Newborn Medicine 2000-2

Consulting Editor Pediatric Research 2006-10

Associate Editor Acta Paediatrica 2002-6

Editorial Board member (now and previously): Neonatology, J Perinatal Medicine, Acta Paediatrica, J Perinatology, Acta Paediatrica (Spain), J Pediatrics

Awards and Honors

- Lærdals Akutt Medisinske pris (Acute Medicine Award) (University of Oslo) 1995
- The Arvo Yllpä Medal (University of Helsinki) 1997

- Elected FRCPE (Royal College of Physicians, Edinburgh) 1996
- Virginia Apgar Prize (World Association of Perinatal Medicine) 2001
- Medinnova's Idea Award (Rikshospitalet) 2002
- Elected Fellow International Academy of Perinatal Medicine (Barcelona) 2005
- Livsvernprisen – The Human Protection Award (Oslo) 2007
- The Maternité Prize (European Association of Perinatal Medicine) 2008
- “Recent Advances in Neonatology”, International meeting Honoring Ola D Saugstad, Würzburg 2008
- Märta Philipson's Award for Progress in Paediatrics (Karolinska Institutet, Stockholm) 2010
- Knighted by the Norwegian King (St. Olav's order) for paediatric research 2010
- The Landmark Award, American Academy of Pediatrics, 2011
- ME prisen (Norwegian ME association) 2012
- The Nordic Medical Award (The SalusAnsvar Medical Award) (Stockholm) 2012*
- Honorary Doctor University of Athens 2013
- Honorary Professor, Moscow University 2013

* *in competition with neonatologists from all over the Nordic countries*

Honorary Memberships

Hungarian Association of Pediatricians (2000)

Norwegian Society for Perinatal Medicine (2002)

Finnish Society for Perinatal Medicine (2003)

European Association of Perinatal Medicine (EAPM) (2004)

American Pediatric Society (2011)

German Society for Perinatal Medicine (2011)

Funding

Constant funding from the Norwegian Council for Research (NFR) the last 25 years.

Received major grants from Norwegian private organizations, EU and NIH. Major grants from Helse Sør Øst, ongoing EEA grant.

References 2010-2014 out of 88 listed in Pubmed

1: Kuligowski J, Pérez-Guaita D, Lliso I, Escobar J, León Z, Gombau L, Solberg R, Saugstad OD, Vento M, Quintás G. Detection of batch effects in liquid chromatography-mass spectrometry metabolomic data using guided principal component analysis. *Talanta*. 2014 Dec;130:442-8.

2: Saugstad O. Twins should be delivered before 38 weeks of gestation: AGAINST. *BJOG*. 2014 Sep;121(10):1293.

3: Arduini A, Escobar J, Vento M, Escrig R, Quintás G, Sastre J, Saugstad OD, Solberg R. Metabolic adaptation and neuroprotection differ in the retina and choroid in a piglet model of acute postnatal hypoxia. *Pediatr Res*. 2014 Aug;76(2):127-34.

- 4: Aune D, Saugstad OD, Henriksen T, Tonstad S. Maternal body mass index and the risk of fetal death, stillbirth, and infant death: a systematic review and meta-analysis. *JAMA*. 2014 Apr 16;311(15):1536-46.
- 5: Saugstad OD, Aune D, Aguar M, Kapadia V, Finer N, Vento M. Systematic review and meta-analysis of optimal initial fraction of oxygen levels in the delivery room at ≤ 32 weeks. *Acta Paediatr*. 2014 Jul;103(7):744-51. doi: 10.1111/apa.12656. Epub 2014 May 21. PubMed PMID: 24716824.
- 6: Aune D, Saugstad OD, Henriksen T, Tonstad S. Physical activity and the risk of preeclampsia: a systematic review and meta-analysis. *Epidemiology*. 2014 May;25(3):331-43. doi: 10.1097/EDE.000000000000036. PubMed PMID: 24713878.
- 7: Brabrand K, de Lange C, Emblem KE, Reinholt FP, Saugstad OD, Stokke ES, Munkeby BH. Contrast-enhanced ultrasound identifies reduced overall and regional renal perfusion during global hypoxia in piglets. *Invest Radiol*. 2014 Aug;49(8):540-6. doi: 10.1097/RLI.000000000000053. PubMed PMID: 24637585.
- 8: Wollen EJ, Sejersted Y, Wright MS, Madetko-Talowska A, Bik-Multanowski M, Kwinta P, Günther CC, Nygård S, Løberg EM, Ystgaard MB, Pietrzyk JJ, Saugstad OD. Transcriptome profiling of the newborn mouse brain after hypoxia-reoxygenation: hyperoxic reoxygenation induces inflammatory and energy failure responsive genes. *Pediatr Res*. 2014 Apr;75(4):517-26. doi: 10.1038/pr.2013.249. Epub 2013 Dec 27. PubMed PMID: 24375083.
- 9: Saugstad OD, Aune D. Optimal oxygenation of extremely low birth weight infants: a meta-analysis and systematic review of the oxygen saturation target studies. *Neonatology*. 2014;105(1):55-63. doi: 10.1159/000356561. Epub 2013 Nov 15. PubMed PMID: 24247112.
- 10: Pietrzyk JJ, Kwinta P, Wollen EJ, Bik-Multanowski M, Madetko-Talowska A, Günther CC, Jagła M, Tomasik T, Saugstad OD. Gene expression profiling in preterm infants: new aspects of bronchopulmonary dysplasia development. *PLoS One*. 2013 Oct 23;8(10):e78585. doi: 10.1371/journal.pone.0078585. eCollection 2013. PubMed PMID: 24194948; PubMed Central PMCID: PMC3806835.
- 11: Wollen EJ, Sejersted Y, Wright MS, Bik-Multanowski M, Madetko-Talowska A, Günther CC, Nygård S, Kwinta P, Pietrzyk JJ, Saugstad OD. Transcriptome profiling of the newborn mouse lung after hypoxia and reoxygenation: hyperoxic reoxygenation affects mTOR signaling pathway, DNA repair, and JNK-pathway regulation. *Pediatr Res*. 2013 Nov;74(5):536-44. doi: 10.1038/pr.2013.140. Epub

2013 Sep 2. PubMed PMID: 23999071.

12: Kro GA, Yli BM, Rasmussen S, Norèn H, Amer-Wåhlin I, Rosén KG, Stray-Pedersen B, Saugstad OD. Association between umbilical cord artery pCO₂ and the Apgar score; elevated levels of pCO₂ may be beneficial for neonatal vitality after moderate acidemia. *Acta Obstet Gynecol Scand.* 2013 Jun;92(6):662-70. doi: 10.1111/aogs.12090. Epub 2013 Mar 29. PubMed PMID: 23551012.

13: Saugstad OD, Kwinta P, Wollen EJ, Bik-Multanowski M, Madetko-Talowska A, Jagła M, Tomasik T, Pietrzyk JJ. Impact of antenatal glucocorticosteroids on whole-genome expression in preterm babies. *Acta Paediatr.* 2013 Apr;102(4):349-55. doi: 10.1111/apa.12166. Epub 2013 Feb 11. PubMed PMID: 23347050.

14: Pietrzyk JJ, Kwinta P, Bik-Multanowski M, Madetko-Talowska A, Jagła M, Tomasik T, Mitkowska Z, Wollen EJ, Nygård S, Saugstad OD. New insight into the pathogenesis of retinopathy of prematurity: assessment of whole-genome expression. *Pediatr Res.* 2013 Apr;73(4 Pt 1):476-83. doi: 10.1038/pr.2012.195. Epub 2012 Dec 26. PubMed PMID: 23269122.

15: Døhlen G, Antal EA, Castellheim A, Thaulow E, Kielland A, Saugstad OD. Hyperoxic resuscitation after hypoxia-ischemia induces cerebral inflammation that is attenuated by tempol in a reporter mouse model with very young mice. *J Perinat Med.* 2013 May;41(3):251-7. doi: 10.1515/jpm-2012-0135. PubMed PMID: 23241583.

16: Dannevig I, Solevåg AL, Sonerud T, Saugstad OD, Nakstad B. Brain inflammation induced by severe asphyxia in newborn pigs and the impact of alternative resuscitation strategies on the newborn central nervous system. *Pediatr Res.* 2013 Feb;73(2):163-70. doi: 10.1038/pr.2012.167. Epub 2012 Nov 20. PubMed PMID: 23168577.

17: Saugstad OD, Sejersted Y, Solberg R, Wollen EJ, Bjørås M. Oxygenation of the newborn: a molecular approach. *Neonatology.* 2012;101(4):315-25. doi: 10.1159/000337345. Epub 2012 Jun 1. PubMed PMID: 22940621.

18: Solberg R, Longini M, Proietti F, Vezzosi P, Saugstad OD, Buonocore G. Resuscitation with supplementary oxygen induces oxidative injury in the cerebral cortex. *Free Radic Biol Med.* 2012 Sep 1;53(5):1061-7. doi: 10.1016/j.freeradbiomed.2012.07.022. Epub 2012 Jul 24. PubMed PMID: 22842050.

19: Østerholt HC, Dannevig I, Wyckoff MH, Liao J, Akgul Y, Ramgopal M, Mija DS, Cheong N, Longoria C, Mahendroo M, Nakstad B, Saugstad OD, Savani RC. Antioxidant protects against increases in low molecular weight hyaluronan and inflammation in

asphyxiated newborn pigs resuscitated with 100% oxygen. *PLoS One*. 2012;7(6):e38839. doi: 10.1371/journal.pone.0038839. Epub 2012 Jun 11. PubMed PMID: 22701723; PubMed Central PMCID: PMC3372475.

20: Saugstad OD, Vento M, Ramji S, Howard D, Soll RF. Neurodevelopmental outcome of infants resuscitated with air or 100% oxygen: a systematic review and meta-analysis. *Neonatology*. 2012;102(2):98-103. doi: 10.1159/000333346. Epub 2012 Jun 5. Review. PubMed PMID: 22677698.

21: Dalen ML, Liu X, Elstad M, Løberg EM, Saugstad OD, Rootwelt T, Thoresen M. Resuscitation with 100% oxygen increases injury and counteracts the neuroprotective effect of therapeutic hypothermia in the neonatal rat. *Pediatr Res*. 2012 Mar;71(3):247-52. doi: 10.1038/pr.2011.43. Epub 2012 Jan 11. PubMed PMID: 22337259.

22: Odland HH, Brun H, Sejersted Y, Dalen M, Edvardsen T, Saugstad OD, Thaulow E. Myocardial longitudinal peak systolic acceleration (pSac): relationship to ejection phase, pressure, and contractility. *Echocardiography*. 2012 May;29(5):541-53. doi: 10.1111/j.1540-8175.2011.01628.x. Epub 2012 Feb 14. PubMed PMID: 22329750.

23: de Lange C, Malinen E, Qu H, Johnsrud K, Skretting A, Saugstad OD, Munkeby BH. Dynamic FDG PET for assessing early effects of cerebral hypoxia and resuscitation in new-born pigs. *Eur J Nucl Med Mol Imaging*. 2012 May;39(5):792-9. doi: 10.1007/s00259-011-2055-y. PubMed PMID: 22297457.

24: Yli BM, Kro GA, Rasmussen S, Khoury J, Norèn H, Amer-Wählin I, Saugstad OD, Stray-Pedersen B. How does the duration of active pushing in labor affect neonatal outcomes? *J Perinat Med*. 2011 Nov 19;40(2):171-8. doi: 10.1515/JPM.2011.126. PubMed PMID: 22098306.

25: Sejersted Y, Hildrestrand GA, Kunke D, Rolseth V, Krokeide SZ, Neurauter CG, Suganthan R, Atneosen-Åsegg M, Fleming AM, Saugstad OD, Burrows CJ, Luna L, Bjørås M. Endonuclease VIII-like 3 (Neil3) DNA glycosylase promotes neurogenesis induced by hypoxia-ischemia. *Proc Natl Acad Sci U S A*. 2011 Nov 15;108(46):18802-7. doi: 10.1073/pnas.1106880108. Epub 2011 Nov 7. PubMed PMID: 22065741; PubMed Central PMCID: PMC3219145.

26: Odland HH, Kro GA, Edvardsen T, Thaulow E, Saugstad OD. Impaired diastolic function and disruption of the force-frequency relationship in the right ventricle of newborn pigs resuscitated with 100% oxygen. *Neonatology*.

- 2012;101(2):147-53. doi: 10.1159/000330804. Epub 2011 Sep 23. PubMed PMID: 21952615.
- 27: de Lange C, Brabrand K, Emblem KE, Bjornerud A, Løberg EM, Saugstad OD, Munkeby BH. Cerebral perfusion in perinatal hypoxia and resuscitation assessed by transcranial contrast-enhanced ultrasound and 3 T MRI in newborn pigs. *Invest Radiol.* 2011 Nov;46(11):686-96. doi: 10.1097/RLI.0b013e3182266431. PubMed PMID: 21730873.
- 28: Odland HH, Brun H, Sejersted Y, Dalen M, Edvardsen T, Saugstad OD, Thaulow E. Longitudinal myocardial contribution to peak systolic flow and stroke volume in the neonatal heart. *Pediatr Res.* 2011 Oct;70(4):345-51. doi: 10.1038/pr.2011.570. PubMed PMID: 21691252.
- 29: Solevåg AL, Dannevig I, Wyckoff M, Saugstad OD, Nakstad B. Return of spontaneous circulation with a compression:ventilation ratio of 15:2 versus 3:1 in newborn pigs with cardiac arrest due to asphyxia. *Arch Dis Child Fetal Neonatal Ed.* 2011 Nov;96(6):F417-21. doi: 10.1136/adc.2010.200386. Epub 2011 Mar 10. PubMed PMID: 21393311.
- 30: Solberg R, Løberg EM, Andresen JH, Wright MS, Charrat E, Khrestchatisky M, Rivera S, Saugstad OD. Resuscitation of newborn piglets. short-term influence of FiO₂ on matrix metalloproteinases, caspase-3 and BDNF. *PLoS One.* 2010 Dec 9;5(12):e14261. doi: 10.1371/journal.pone.0014261. PubMed PMID: 21151608; PubMed Central PMCID: PMC3000320.
- 31: Saugstad OD, Aune D. In search of the optimal oxygen saturation for extremely low birth weight infants: a systematic review and meta-analysis. *Neonatology.* 2011;100(1):1-8. doi: 10.1159/000322001. Epub 2010 Dec 9. Review. PubMed PMID: 21150224.
- 32: Dalen ML, Alme TN, Bjørås M, Munkeby BH, Rootwelt T, Saugstad OD. Reduced expression of DNA glycosylases in post-hypoxic newborn pigs undergoing therapeutic hypothermia. *Brain Res.* 2010 Dec 2;1363:198-205. doi: 10.1016/j.brainres.2010.09.080. Epub 2010 Sep 29. PubMed PMID: 20883672.
- 33: Kro GA, Yli BM, Rasmussen S, Norèn H, Amer-Wählin I, Saugstad OD, Stray-Pedersen B, Rosén KG. A new tool for the validation of umbilical cord acid-base data. *BJOG.* 2010 Nov;117(12):1544-52. doi: 10.1111/j.1471-0528.2010.02711.x. Epub 2010 Sep 14. PubMed PMID: 20840525.
- 34: Dannevig I, Solevåg AL, Wyckoff M, Saugstad OD, Nakstad B. Delayed onset of

- cardiac compressions in cardiopulmonary resuscitation of newborn pigs with asphyctic cardiac arrest. *Neonatology*. 2011;99(2):153-62. doi: 10.1159/000302718. Epub 2010 Sep 11. PubMed PMID: 20829634.
- 35: Odland HH, Kro GA, Munkeby BH, Edvardsen T, Saugstad OD, Thaulow E. Ejection time-corrected systolic velocity improves accuracy in the evaluation of myocardial dysfunction: a study in piglets. *Pediatr Cardiol*. 2010 Oct;31(7):1070-8. doi: 10.1007/s00246-010-9767-9. Epub 2010 Aug 19. PubMed PMID: 20721662; PubMed Central PMCID: PMC2948161.
- 36: Saugstad OD. Resuscitation of newborn infants: from oxygen to room air. *Lancet*. 2010 Dec 11;376(9757):1970-1. doi: 10.1016/S0140-6736(10)60543-0. Epub 2010 Jul 19. PubMed PMID: 20663546.
- 37: Solevåg AL, Dannevig I, Wyckoff M, Saugstad OD, Nakstad B. Extended series of cardiac compressions during CPR in a swine model of perinatal asphyxia. *Resuscitation*. 2010 Nov;81(11):1571-6. doi: 10.1016/j.resuscitation.2010.06.007. Epub 2010 Jul 17. PubMed PMID: 20638769.
- 38: Dalen ML, Alme TN, Munkeby BH, Løberg EM, Pripp AH, Mollnes TE, Rootwelt T, Saugstad OD. Early protective effect of hypothermia in newborn pigs after hyperoxic, but not after normoxic, reoxygenation. *J Perinat Med*. 2010 Sep;38(5):545-56. doi: 10.1515/JPM.2010.081. PubMed PMID: 20629493.
- 39: Solberg R, Enot D, Deigner HP, Koal T, Scholl-Bürgi S, Saugstad OD, Keller M. Metabolomic analyses of plasma reveals new insights into asphyxia and resuscitation in pigs. *PLoS One*. 2010 Mar 9;5(3):e9606. doi: 10.1371/journal.pone.0009606. PubMed PMID: 20231903; PubMed Central PMCID: PMC2834759.
- 40: Salvesen B, Stenvik J, Rossetti C, Saugstad OD, Espevik T, Mollnes TE. Meconium-induced release of cytokines is mediated by the TLR4/MD-2 complex in a CD14-dependent manner. *Mol Immunol*. 2010 Mar;47(6):1226-34. doi: 10.1016/j.molimm.2009.12.015. Epub 2010 Jan 22. PubMed PMID: 20092898.
- 41: Solevåg AL, Dannevig I, Nakstad B, Saugstad OD. Resuscitation of severely asphyctic newborn pigs with cardiac arrest by using 21% or 100% oxygen.

Neonatology. 2010 Jun;98(1):64-72. doi: 10.1159/000275560. PubMed PMID: 20068361.

42: Solberg R, Andresen JH, Pettersen S, Wright MS, Munkeby BH, Charrat E, Khrestchatisky M, Rivera S, Saugstad OD. Resuscitation of hypoxic newborn piglets with supplementary oxygen induces dose-dependent increase in matrix metalloproteinase-activity and down-regulates vital genes. *Pediatr Res.* 2010 Mar;67(3):250-6. doi: 10.1203/PDR.0b013e3181cde843. PubMed PMID: 20010314.

43: Odland HH, Kro GA, Edvardsen T, Thaulow E, Saugstad OD. Atrioventricular valve annulus velocity and acceleration during global hypoxia in newborn pigs - assessment of myocardial function. *Neonatology.* 2010;97(2):100-7. doi: 10.1159/000235806. Epub 2009 Aug 28. PubMed PMID: 19713716.