UKK ERIA

UKK Neonatologi

The Indonesian PICU NICU Update

Organized in Collaboration By
- Pediatric Emergency & Intensive Care Working Group (ERIA)/Indonesian Pediatric Society (IDAI)
- Neonatology Working Group/Indonesian Pediatric Society (IDAI)

PROGRAM

12th Indonesian PICU NICU Update is entering the Virtual World for 2021

12TH VIRTUAL INDONESIAN PICU NICU UPDATE

"Improving Management of Pediatric and Neonatal Emergencies: Recognition and Prompt Management in Critically ill Patients"

Fridays on 04, 11, 18, 25 June 2021
https://picunicu.org/annual-conference/

FOREWORD

Greeting from the Indonesian PICU NICU Update

The Indonesian PICU NICU Update has always been notable for its excellent program that balances cutting-edge scientific updates and advanced clinical discussions. More than thousands of pediatricians, general practitioners and PICU NICU Nurses gather annually at the Indonesian PICU NICU Update to explore updates, learn from industry partners and strengthen their professional networks.

Even in the challenging times surrounding the coronavirus, the Indonesian new-normal implementation & social distancing protocol, the science still remains our first priority, that we are pulling together and finding solutions that we may honor our shared responsibility to the science behind the 12th Indonesian PICU NICU Update.

We break the boundaries of reality and create augmented experience like no other. For the first time, 12th Indonesian PICU NICU Update will be held entirely virtual. Instead of meeting in person, we will be meeting virtually over the website, both conference and exhibition. The Indonesian PICU NICU Update will continue that tradition with sessions and exhibition, devoted to the latest breakthrough in pediatric and neonatal critical care field.

Therefore we invite you the joint endeavor of keeping the scientific momentum going and stay with your commitment to 12th Indonesian PICU NICU Update by joining us in fully virtual experiences on 04, 11, 18 and 25 June 2021.

We assure you that this online platform will allow for maximum visibility and exposure for any of your activities. Advantages of the virtual 12th Indonesian PICU NICU Update include even better visibility to a broader audience. We view our relationship as a partnership as we are committed to your success and to delivering the most valuable highlight and marketing opportunities possible. Kindly find the enclosed Sponsorship Prospectus for your perusal to discuss new collaborations.

Best Regards,

Dr. Abdul Latief, Sp.A(K)
Chairman 12th Indonesian PICU NICU Update

ORGANIZING COMMITTEE

STEERING COMMITTEE

- Chairman of Pediatric Emergency and Intensive Care (ERIA) Working Group/Indonesian Pediatric Society, DR. Dr. Ririe F. Malisie, Sp.A(K)
- Chairman of Neonatology Working Group/Indonesian Pediatric Society, DR. Dr. Toto Wisnu Hendrarto, Sp.A(K)

CHAIRMAN

Dr. Abdul Latief, Sp.A(K)

SCIENTIFIC COMMITTEE

The strategic team prepares an energizing and instructive simultaneous various program to fully load up on the latest information on neonatal and pediatric critical care with the expertise of leading national and international figures.

Dr. Abdul Latief, Sp.A(K) –Scientific Chairman

Abdul Latief is senior Pediatricians and Specialist in Pediatric Emergency and Intensive Care. Despite the excellent works and services being done with his colleagues and within Institutions, his passion in teaching gives him significant role not only with respect to the importance of sustainability continuing education and but also raising awareness among medical professionals.

DR. Dr. Anton H. Pudjiadi, Sp.A(K) – Scientific Coordinator

Antonius Pudjiadi is the Pediatricians & Specialist in Pediatric Emergency and Intensive Care, and a researcher in Faculty of Medicine, Universitas Indonesia. He leads Indonesian PICU NICU Update in integrated and innovative efforts to deliver the standardization knowledge in pediatric healthcare to deliver the standardization knowledge in pediatric healthcare

Prof. DR. Dr. Rinawati Rohsiswatmo, Sp.A(K) – Scientific Committee

Rinawati Rohsiswatmo is Specialist at Neonatology Division – Faculty of Medicine Universitas Indonesia, Cipto Mangunkusumo Hospital, and Neonatologist leads the Indonesian PICU NICU Update in integrated and innovative efforts to deliver the standardization knowledge in Neonatal Intensive Care, oversees the program development team in NICU, aligns services and processes to support the program strategies that will surely enrich the Indonesian PICU NICU Update program

Dr. Lily Rundjan, Sp.A(K) - Scientific Committee

Lily Rundjan is a Specialist and Neonatologist at Neonatology Division– Faculty of Medicine Universitas Indonesia, Cipto Mangunkusumo Hospital. She plays out her important role in the Indonesian PICU NICU Updates, finding creative new ways to ensure solutions that the clinical practice programs of the Indonesian PICU NICU Update get into the hands of professional healthcare.

GENERAL INFORMATION

EVENT NAME
Virtual 12th Indonesian PICU NICU Update & Exhibition

THEME
"Improving Management of Pediatric and Neonatal Emergencies: Recognition and Prompt Management in Critically ill Patients"

PERIOD & DATES
Every Friday on 04, 11, 18 and 25 June 2020 (07.00 – 17.00)

PLACE
https://picunicu.org/annual-conference/

HOST
The Indonesian PICU NICU Update

ORGANIZED BY
Collaboration between Pediatric Emergency and Intensive Care (ERIA) Working Group and Neonatology Working Group/Indonesian Pediatric Society

LANGUAGE
The official language of the Virtual 12th Indonesian PICU NICU Update & Exhibition will be both Indonesian and English (for International Speakers Session) and applied for e-documents, printing and presentations.

DISCLAIMER
Whilst every attempt will be made to ensure all features of the Scientific Sessions and the virtual exhibition mentioned in this program will take place as scheduled, the Organizing Committee and Secretariat reserves the right to make the last minute amendment.

FORMAT OF THE PROGRAM

LIVE DISCUSSION SESSIONS
The live discussion sessions of Pediatric ICU (PICU Sessions) and Neonatal ICU (NICU Sessions) will get abroad on 04, 11, 18 and 25 June 2021. *See detail Time Table.*

AUTOMATE SESSIONS
Automate Sessions are recorded sessions that is part of the Virtual 12th Indonesian PICU NICU Update scientific program, which can be accessed at any time on 04, 11, 18, 25 June to 30 June 2021, giving participants convenient time to join the session and add insight & knowledge about enchanting topics conducted by well-known faculties from all provinces in Indonesia.

ON-DEMAND VIDEO
The live PICU & NICU sessions will be recorded and the output of the recordings (on-demand) can be accessed after 28 June 2021 by registrants of Virtual 12th Indonesian PICU NICU Update to enhance the learning purpose. The platform can be accessed until 31 July 2021.

EXHIBITION BINGO!
Join an awe-inspiring experience in virtual reality and 3D interactive - 360° interface exhibition within your finger browse on 04, 11, 18 and 25 June 2021. Visit all the Booths & toss-up surprising reward of Free Registration for the next Indonesian PICU NICU Update. The winners will be contacted by the Secretariat to record the administration and delivery.

IMPORTANT: Use only recent PC compatible browser in Landscape mode (portrait mode and small screen device will not work properly). Suggested compatible browsers includes: Firefox 82+, Chrome 86+, Safari 13+. Other browsers might work but not recommended.

JOIN THE 12th Indonesian PICU NICU Update

- The platform can only be accessed by paid Registrants.
- All Registrants can access the platform ***https://picunicu.org/annual-conference/***
- Click-On the thumbnail "*12th VIRTUAL PICU NICU UPDATE*", you will be required to fill-in your personal inquiry upon your registration data.
- The live sessions will use Zoom® application to live stream the presentation of the conference. Please download and install Zoom® application on your notebook / computer.
- Using the IPad or Notebook with landscape mode is strongly recommended with stable internet connection

ON SITE REGISTRATION

On-Site Registration will be managed until 02 June 2021 23.59 along with your payment proof.

REGISTRATION FEE INCLUDESS

- Admission to scientific live and automate sessions on 04, 11, 18 and 25 June 2021.
- Enjoy an awe-inspiring experience in virtual reality and 3D interactive - 360° interface exhibition within your finger browse on 04, 11, 18 and 25 June 2021.
- E-Program Book, which included Abstracts of Speakers' presentations.
- Participant Materials (PDF Presentation of Speakers –with consent) after 28 June 2021
- Access to On-Demand Video after 28 June 2021
- E-Certification

E-CERTIFICATION

This Virtual 12th Indonesian PICU NICU Update provides the Accreditation of Indonesian Pediatric Society for Pediatricians (IDAI) for Pediatricians and Indonesian Medical Association (IDI) for General Practitioners. The E-Certificate is provided upon 70% of accumulative online attendance and will be issued on **25 June 2021 17.00** hours. No printing version of certificate will be provided.

CME ACTIVITY FOR PEDIATRICIANS

Due to P2KB (CPD) of Indonesian Pediatric Society requirement, the minimum 70% online attendance is strictly required for Pediatricians (IPS Members). The CPD Credits is solely CPD's Right and discretion upon the list of attendance record and proof for this online sessions.

SPEAKERS/MODERATOR GUIDELINES

The Virtual 12th Indonesian PICU NICU Update will use Zoom® application to live stream the presentation of the conference. Please download and install Zoom® application on your notebook / computer.

GENERAL GUIDELINES

1. All speakers and moderators must familiar with the date and time of their sessions. They are expected to be ready at least 30 minutes before the sessions commence and connect with our Remote Operation Team on-time.
2. Moderators are required to follow the run through and cue card prepared.
3. Speakers are required to complete their presentation within the time frame allocated. Moderators and speakers are required to adhere the time limits.
4. Moderators are in-charged for presenting each speakers in their sessions and responsible to start and end each sessions on time.
5. Moderators may read the brief resume of the speaker before the presentation started. *Speakers Resume will be available on screen.*
6. Moderators are in-charged to lead the discussion on related topic.

FORESEEN & REHEARSAL

The rehearsal for speakers and moderator using Zoom application will be held 30 minutes before the live conference started. We must be able to connect you using your computer with high speed internet connection.

SCIENTIFIC PROGRAM
AUTOMATE SESSIONS

Automate Sessions are recorded sessions that is part of the Virtual 12th Indonesian PICU NICU Update scientific program, which can be accessed at any time from 04 June to 30 June 2021, giving participants convenient time to join the session and add insight & knowledge about enchanting topics conducted by well-known faculties from all provinces in Indonesia.

FRIDAYS	04, 11, 18, 25 JUNE 2021

08.00 – 23.00 **NEONATAL ENTERAL NUTRITION UPDATE**
Moderator: DR. Dr. Toto Wisnu Hendrarto, Sp.A(K) (Jakarta)

1. **Feeding Challenges in the Late Preterm Infants**
   Dr. Rosalina D. Roeslani, Sp.A(K) (Jakarta)
2. **Nutritional Management in Preterm Infants: What's New?**
   Prof. DR. Dr. Rinawati Rohsiswatmo, Sp.A(K) (Jakarta)
3. **Nutritional Management of Newborn Infants with Growth Faltering**
   Prof. DR. Dr. Damayanti Rusli Sjarif, Sp.A(K) (Jakarta)

Discussion
Take Home Message
Supported by a grant from Sarihusada Generasi Mahardhika

08.00 – 23.00 **NEONATAL INFECTION UPDATE**
Moderator: DR. Dr. Risa Etika, Sp.A(K) (Surabaya)

1. **Investigation and Management of Multidrug Resistant Organisms in NICU**
   Dr. Nina Dwi Putri, Sp.A(K), M.Sc(TropPaed) (Jakarta)
2. **Approach for Diagnostics Challenges on Neonatal Sepsis**
   Dr. Muhammad Azharry Rully, Sp.A (Jakarta)
3. **The Use of Oral Nystatin Prophylaxis in NICU**
   Dr. Lily Rundjan, Sp.A(K) (Jakarta)

Discussion
Take Home Message
Supported by a grant from Taisho Pharmaceutical Indonesia

08.00 – 23.00 **NEONATAL PARENTERAL NUTRITION UPDATE**
Moderator: Dr. Setya Wandita, Sp.A(K) (Yogyakarta)

1. **Lipid Restriction In Critically Ill Neonates: Evidences and Controversies**
   Prof. DR. Dr. Rinawati Rohsiswatmo, Sp.A(K) (Jakarta)
2. **The Role of Phosphate Supplementation: Prevention of Osteopenia of Prematurity**
   Dr. Putri Maharani T.M., Sp.A(K) (Jakarta)

Discussion
Take Home Message
Supported by a grant from Fresenius Kabi Indonesia

08.00 – 23.00 **NUTRITION & GROWTH OPTIMIZATION OF PRETERM INFANTS**
Moderator: Prof. DR. Dr. Rinawati Rohsiswatmo, Sp.A(K) (Jakarta)

1. **The Effect of Zinc Supplementation on The Linear Growth of Preterm Infants**
   DR. Dr. Risma K. Kaban, Sp.A(K) (Jakarta)
2. **Update on Prevention & Management of Iron Deficiency Anemia in Preterm Infants**
   DR. Dr. Murti Andriastuti, Sp.A(K) (Jakarta)

Discussion
Take Home Message
Supported by a grant from Combiphar

08.00 – 23.00 **REFEEDING SYNDROME OF CHILDREN IN AT RISK OF FAILURE TO THRIVE**
Moderator: Dr. Abdul Latief, Sp.A(K) (Jakarta)
Prof. DR. Dr. Damayanti Rusli Sjarif, Sp.A(K) (Jakarta)

Discussion
Take Home Message
Supported by a grant from Abbott Nutrition Indonesia

08.00 – 23.00 **PNEUMOCOCCAL VACCINE IN PANDEMIC**
Moderator: Dr. Dina Muktiarti, Sp.A(K) (Jakarta)

1. **Pneumonia Burden in Indonesian Children: Understanding Pneumococcal Pneumonia**
   Dr. Wahyuni Indawati, Sp.A(K) (Jakarta)
2. **Do We Still Need Pneumococcal Prevention in COVID-19 Pandemic?**
   Dr. Mulya Rahma Karyanti, Sp.A(K), M.Sc (Jakarta)

Discussion
Take Home Message
Supported by a grant from Pfizer Indonesia

LIVE DISCUSSION SESSION

These novel Sessions will bring together even broader audience of Pediatricians, Neonatologists, General Practitioners and PICU NICU Nurses with updated topics in the field of Pediatric & Neonatal Critical Care and discuss the impact of newest clinical results and cutting edge clinical findings in fruitful topics on 04th, 11th, 18th and 25th June 2021

FRIDAY	04 JUNE 2021
09.30 – 10.00	**OPENING REMARKS** - Chairman Virtual 12th Indonesian PICU NICU Update – Dr. Abdul Latief, Sp.A(K) - Chairman of Neonatology Working Group/Indonesian Pediatric Society, DR. Dr. Toto Wisnu Hendrarto, Sp.A(K) - Chairman of Pediatric Emergency and Intensive Care (ERIA) Working Group/ Indonesian Pediatric Society, DR. Dr. Ririe F. Malisie, Sp.A(K) - President of Indonesian Pediatric Society - Prof. DR. Dr. Aman B. Pulungan, Sp.A(K), FAAP, FRCPI(Hon)
	NICU – LIVE DISCUSSION SESSION
	NEONATAL INTENSIVE CARE UPDATE I Moderator: Dr. Aris Primadi, Sp.A(K) (Bandung)
10.00 – 10.30	**1. Threshold for Neonatal Blood Transfusion** Prof. DR. Dr. Rinawati Rohsiswatmo, Sp.A(K) (Jakarta)
10.30 – 11.00	**2. A Practical Approach to Emergencies in the Neonatal Period** Dr. Setyadewi Lusyati, Sp.A(K), PhD (Jakarta)
11.00 – 11.30	Discussion Take Home Message
11.30 – 13.30	**VISITING VIRTUAL EXHIBITION**
	PICU - LIVE DISCUSSION SESSION
	CURRENT UPDATE OF CORONAVIRUS DISEASE 2019 (COVID-19) IN CRITICALLY ILL CHILDREN: **HEMODYNAMIC MANAGEMENT OF CHILDREN WITH COVID-19 INFECTION** Moderator: Dr. Abdul Latief, Sp.A(K) (Jakarta)
13.30 – 13.35	**Introduction**
13.35 – 14.15	**State-Of-The-Art-Lecture** **Clinical Application of Invasive & Non-Invasive Hemodynamic Monitoring** Joris Lemson, MD (Netherlands)
14.15 – 14.25	**Panel Discussion Invasive and Non-Invasive Hemodynamic Monitoring** **1. Case Presenter Non-Invasive:** Dr. Neurinda Permata, Sp.A(K) (Surabaya) **2. Case Presenter Invasive** Dr. Tartila, Sp.A (Jakarta)
14.25 – 14.45	**Panelist** - Joris Lemson, MD (Netherlands) - Dr. Saptadi Yuliarto, Sp.A(K), M.Kes (Malang) - DR. Dr. Antonius H. Pudjiadi, Sp.A(K) (Jakarta)
14.45 – 15.00	Take Home Message
15.00 – 17.00	**VISITING VIRTUAL EXHIBITION**

FRIDAY	11 JUNE 2021
07.00 – 09.30	**VISITING VIRTUAL EXHIBITION**
	PICU - LIVE DISCUSSION SESSION
	CURRENT UPDATE OF CORONAVIRUS DISEASE 2019 (COVID-19) IN CRITICALLY ILL CHILDREN: **VENTILATION MANAGEMENT OF CHILDREN WITH COVID-19 INFECTION** Moderator: Prof. Dr. Munar Lubis, Sp.A(K) (Medan)
09.30 – 09.35	**Introduction**
09.35 – 09.50	**1. Debate on Non-Invasive Ventilation for Acute Respiratory Failure**
09.50 – 10.05	**Pro :** Dr. Sri Martuti, Sp.A(K), M.Kes (Solo)
10.05 – 10.30	**Con:** Dr. Yusrina Istanti, Sp.A(K), M.Si.Med (Semarang) **Pro-Con**
10.30 – 11.00	**2. State-Of-The-Art-Lecture** **Practice Recommendation for the Ventilator Management of Children with Suspected or Proven Covid-19 Infections** Dr. Kurniawan Taufiq Kadafi, M.Biomed, Sp.A(K) (Malang)
11.00 – 11.30	Discussion
11.30 – 11.45	Take Home Message
11.45 – 13.30	**VISITING VIRTUAL EXHIBITION**
	NICU - LIVE DISCUSSION SESSION
	BORN TOO SOON: SPECIAL CARE TO SUPPORT GROWTH & DEVELOPMENT Moderator: Dr. R.AY. Siti Lintang Kawurjan Poespaningrat, Sp.A(K) (Malang)
13.30 – 14.00	**1. The Importance Screening in Premature Baby that Frequently Missed** Dr. Putri Maharani T.M., Sp.A(K) (Jakarta)
14.00 – 14.30	**2. Understanding Your Premature Baby's Growth Chart** Prof. DR. Dr. Rinawati Rohsiswatmo, Sp.A(K) (Jakarta)
14.30 – 15.00	Discussion Take Home Message **Supported by a grant from Nestle Indonesia**
15.00 – 15.30	**VISITING VIRTUAL EXHIBITION**
	NICU - LIVE DISCUSSION SESSION
	NEONATAL RESPIRATORY UPDATE Moderator: Prof. Dr. Guslihan Dasa Tjipta, Sp.A(K) (Medan)
15.30 – 16.00	**1. Better Understanding of High Frequency Oscillatory** Dr. R. Adhi Teguh Perma Iskandar, Sp.A(K) (Jakarta) **Supported by a grant from Draeger Indonesia**
16.00 – 16.30	**2. Recommendations for Neonatal Surfactant Therapy: When & How** DR. Dr. Risma K. Kaban, Sp.A(K) (Jakarta) **Supported by a grant from Abbott Indonesia**
16.30 – 17.00	Discussion Take Home Message

FRIDAY	18 JUNE 2021
07.00 – 10.00	**VISITING VIRTUAL EXHIBITION**
	NICU - LIVE DISCUSSION SESSION
	NEONATAL HAEMODYNAMIC UPDATE Moderator: Dr. Tunjung Wibowo, M.Kes., MPH, Sp.A(K) (Yogyakarta)
10.00 – 10.30	**1. Management of Congenital Diaphragmatic Hernia: An Update** Dr. Ahmad Kautsar, Sp.A (Jakarta)
10.30 – 11.00	**2. How to Apply Echocardiography to a Clinical Practice in NICU?** Dr. R. Adhi Teguh Perma Iskandar, Sp.A(K) (Jakarta)
11.00 – 11.30	Discussion Take Home Message
11.30 – 13.30	**VISITING VIRTUAL EXHIBITION**
	NICU - LIVE DISCUSSION SESSION
	LBW INFANTS CARE: HOW TO SAVE THE BRAIN Moderator: Dr. Dewi Anggraini Wisnumurti Wahana, Sp.A(K), IBCLC (Pekanbaru)
13.30 – 14.00	**1. Development Care: Creating a Stress-Free NICU Environmental** DR. Dr. Risma K. Kaban, Sp.A(K) (Jakarta
14.00 – 14.30	**2. The Quality of Early Experiences Drives Brain Development of LBW Infants in the First 100 Days of Life** DR. Dr. Ahmad Suryawan, Sp.A(K) (Surabaya)
14.30 – 15.00	Discussion Take Home Message **Supported by a grant from Wyeth Nutrition Sduaenam**
15.00 – 15.30	**VISITING VIRTUAL EXHIBITION**
	PICU - LIVE DISCUSSION SESSION
	CURRENT UPDATE OF CORONAVIRUS DISEASE 2019 (COVID-19) IN CRITICALLY ILL CHILDREN: **MULTISYSTEM INFLAMMATORY SYNDROME IN CHILDREN (MIS-C) WITH COVID-19 INFECTION** Moderator: DR. Dr. Ririe F. Malisie, Sp.A(K) (Medan)
15.30 – 15.35	**Introduction**
15.35 – 15.55	**1. Clinical Guidance for the Management of MIS-C Associated with SARS-CoV-2 Hyper-inflammation** Dr. Nina Dwi Putri, Sp.A(K), M.Sc(TropPaed) (Jakarta)
15.55 – 16.15	**2. Immune Immunomodulation in Covid-19: Strategic Consideration for Personalized Therapeutic Intervention** Dr. Yogi Prawira, Sp.A(K) (Jakarta)
16.15 – 17.00	Discussion Take Home Message

FRIDAY	25 JUNE 2021
	NICU - LIVE DISCUSSION SESSION
	EXTREME LOW BIRTH WEIGHT (ELBW) UPDATE Moderator: Prof. DR. Dr. Ari Yunanto, Sp.A(K), IBCLC, SH (Banjarmasin)
09.00 – 09.30	**1. Fluid and Electrolytes Management of Very Low Birth Weight** Dr. Lily Rundjan, Sp.A(K) (Jakarta)
09.30 – 09.50	**2. Extremely Low Birth Weight Skin Care Management** Dr. Putri Maharani T.M., Sp.A(K) (Jakarta)
09.50 – 10.30	Discussion Take Home Message
10.30 – 13.30	**VISITING VIRTUAL EXHIBITION**
	PICU - LIVE DISCUSSION SESSION
	CURRENT UPDATE OF CORONAVIRUS DISEASE 2019 (COVID-19) IN CRITICALLY ILL CHILDREN: **COMPREHENSIVE MANAGEMENT IN CRITICALLY ILL CHILDREN** Moderator: Dr. Ida Bagus Gede Suparyatha, Sp.A(K) (Denpasar)
13.30 – 13.35	**Introduction**
13.35 – 13.55	**1. Clinical Management of Children Admitted to Hospital with Suspected COVID-19** Dr. Stanza Uga Peryoga, Sp.A(K), M.Kes (Bandung)
13.55 – 14.25	**2. Clinical Management of Children with COVID-19 Admitted to Pediatric Intensive Care Unit** Dr. M. Supriatna T.S, Sp.A(K) (Semarang)
14.25 – 15.00	Discussion Take Home Message
15.00 – 15.30	**VISITING VIRTUAL EXHIBITION**
	NICU - LIVE DISCUSSION SESSION
	NEONATAL INTENSIVE CARE UPDATE II Moderator: Dr. Gatot Irawan Sarosa, Sp.A(K) (Semarang)
15.30 – 16.00	**1. Persistent Neonatal Hypoglycemia: Diagnosis and Management** Prof. DR. Dr. Jose R.L. Batubara, Sp.A(K) (Jakarta)
16.00 – 16.30	**2. Quality Improvement in Neonatal Resuscitation** Dr. Distyayu Soekardja, Sp.A (Jakarta)
16.30 – 17.00	Discussion Take Home Message
17.00 - Onwards	**VISITING VIRTUAL EXHIBITION & E-CERTIFICATION**

INDUSTRY ACKNOWLEDGEMENT

The Pediatric Emergency and Intensive Care (ERIA) Working Group and Neonatology Working Group/ Indonesian Pediatric Society would like to wholeheartedly thank the following patrons, who are entitled to be recognized as loyal patrons and exhibitors in the Virtual 12th Indonesian PICU NICU Update

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The Indonesian PICU NICU Update

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- Pediatric Emergency & Intensive Care Working Group (ERIA)/Indonesian Pediatric Society (IDAI)
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ABSTRACT

12th Indonesian PICU NICU Update is entering the Virtual World for 2021

12TH VIRTUAL INDONESIAN PICU NICU UPDATE

"Improving Management of Pediatric and Neonatal Emergencies: Recognition and Prompt Management in Critically ill Patients"

Fridays on 04, 11, 18, 25 June 2021
https://picunicu.org/annual-conference/

FRIDAY 04 JUNE 2021

NICU – LIVE DISCUSSION SESSION
NEONATAL INTENSIVE CARE UPDATE I

1. **Threshold for Neonatal Blood Transfusion**
   Prof. DR. Dr. Rinawati Rohsiswatmo, Sp.A(K) (Jakarta)
2. **A Practical Approach to Emergencies in the Neonatal Period**
   Dr. Setyadewi Lusyati, Sp.A(K), PhD (Jakarta)

PICU - LIVE DISCUSSION SESSION
CURRENT UPDATE OF CORONAVIRUS DISEASE 2019 (COVID-19) IN CRITICALLY ILL CHILDREN:
HEMODYNAMIC MANAGEMENT OF CHILDREN WITH COVID-19 INFECTION
State-Of-The-Art-Lecture
Clinical Application of Invasive & Non-Invasive Hemodynamic Monitoring
Joris Lemson, MD (Netherlands)

FRIDAY 11 JUNE 2021

PICU - LIVE DISCUSSION SESSION
CURRENT UPDATE OF CORONAVIRUS DISEASE 2019 (COVID-19) IN CRITICALLY ILL CHILDREN:
VENTILATION MANAGEMENT OF CHILDREN WITH COVID-19 INFECTION
State-Of-The-Art-Lecture
Practice Recommendation for the Ventilator Management of Children with Suspected or Proven Covid-19 Infections
Dr. Kurniawan Taufiq Kadafi, M.Biomed, SpA(K) (Malang)

NICU - LIVE DISCUSSION SESSION
BORN TOO SOON: SPECIAL CARE TO SUPPORT GROWTH & DEVELOPMENT

1. **The Importance Screening in Premature Baby that Frequently Missed**
   Dr. Putri Maharani T.M.,Sp.A(K) (Jakarta)
2. **Understanding Your Premature Baby's Growth Chart**
   Prof. DR. Dr. Rinawati Rohsiswatmo, Sp.A(K) (Jakarta)

NICU - LIVE DISCUSSION SESSION
NEONATAL RESPIRATORY UPDATE

1. **Better Understanding of High Frequency Oscillatory**
   Dr. R. Adhi Teguh Perma Iskandar, Sp.A(K) (Jakarta)
2. **Recommendations for Neonatal Surfactant Therapy: When & How**
   DR. Dr. Risma K. Kaban, Sp.A(K) (Jakarta)

FRIDAY 18 JUNE 2021

NICU - LIVE DISCUSSION SESSION
NEONATAL HAEMODYNAMIC UPDATE

1. **Management of Congenital Diaphragmatic Hernia: An Update**
   Dr. Ahmad Kautsar, Sp.A (Jakarta)
2. **How to Apply Echocardiography to a Clinical Practice in NICU?**
   Dr. R. Adhi Teguh Perma Iskandar, Sp.A(K) (Jakarta)

NICU - LIVE DISCUSSION SESSION
LBW INFANTS CARE: HOW TO SAVE THE BRAIN

1. **Development Care: Creating a Stress-Free NICU Environmental**
   DR. Dr. Risma K. Kaban, Sp.A(K) (Jakarta)
2. **The Quality of Early Experiences Drives Brain Development of LBW Infants in the First 100 Days of Life**
   DR. Dr. Ahmad Suryawan, Sp.A(K) (Surabaya)

PICU - LIVE DISCUSSION SESSION
CURRENT UPDATE OF CORONAVIRUS DISEASE 2019 (COVID-19) IN CRITICALLY ILL CHILDREN:
MULTISYSTEM INFLAMMATORY SYNDROME IN CHILDREN (MIS-C) WITH COVID-19 INFECTION

1. **Clinical Guidance for the Management of MIS-C Associated with SARS-CoV-2 Hyper-inflammation**
   Dr. Nina Dwi Putri, Sp.A(K), M.Sc(TropPaed) (Jakarta)
2. **Immune Immunomodulation in Covid-19: Strategic Consideration for Personalized Therapeutic Intervention**
   Dr. Yogi Prawira, Sp.A(K) (Jakarta)

PICU - LIVE SESSION
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2. **Immune Immunomodulation in Covid-19: Strategic Consideration for Personalized Therapeutic Intervention**
   Dr. Yogi Prawira, Sp.A(K) (Jakarta)

FRIDAY 25 JUNE 2021

NICU - LIVE SESSION
EXTREME LOW BIRTH WEIGHT (ELBW) UPDATE

1. **Fluid and Electrolytes Management of Very Low Birth Weight**
   Dr. Lily Rundjan, Sp.A(K) (Jakarta)
2. **Extremely Low Birth Weight Skin Care Management**
   Dr. Putri Maharani T.M.,Sp.A(K) (Jakarta)

PICU - LIVE SESSION
CURRENT UPDATE OF CORONAVIRUS DISEASE 2019 (COVID-19) IN CRITICALLY ILL CHILDREN: COMPREHENSIVE MANAGEMENT IN CRITICALLY ILL CHILDREN

1. **Clinical Management of Children Admitted to Hospital with Suspected COVID-19**
   Dr. Stanza Uga Peryoga, Sp.A(K), M.Kes (Bandung)
2. **Clinical Management of Children with COVID-19 Admitted to Pediatric Intensive Care Unit**
   Dr. M. Supriatna, Sp.A(K) (Semarang)

NICU - LIVE SESSION
NEONATAL INTENSIVE CARE UPDATE II

1. **Persistent Neonatal Hypoglycemia: Diagnosis and Management**
   Prof. DR. Dr. Jose R.L. Batubara, Sp.A(K) (Jakarta)
2. **Quality Improvement in Neonatal Resuscitation**
   Dr. Distyayu Soekardja, Sp.A (Jakarta)

AUTOMATE SESSIONS

NEONATAL ENTERAL NUTRITION UPDATE

1. **Feeding Challenges in the Late Preterm Infants**
   Dr. Rosalina D. Roeslani, Sp.A(K) (Jakarta)
2. **Nutritional Management in Preterm Infants: What's New?**
   Prof. DR. Dr. Rinawati Rohsiswatmo, Sp.A(K) (Jakarta)
3. **Nutritional Management of Newborn Infants with Growth Faltering**
   Prof. DR. Dr. Damayanti Rusli Sjarif, Sp.A(K) (Jakarta)

NEONATAL PARENTERAL NUTRITION UPDATE

1. **Lipid Restriction In Critically Ill Neonates: Evidences and Controversies**
   Prof. DR. Dr. Rinawati Rohsiswatmo, Sp.A(K) (Jakarta)
2. **The Role of Phosphate Supplementation: Prevention of Osteopenia of Prematurity**
   Dr. Putri Maharani T.M.,Sp.A(K) (Jakarta)

NUTRITION & GROWTH OPTIMIZATION OF PRETERM INFANTS

1. **The Effect of Zinc Supplementation on The Linear Growth of Preterm Infants**
   DR. Dr. Risma K. Kaban, Sp.A(K) (Jakarta)
2. **Update on Prevention & Management of Iron Deficiency Anemia in Preterm Infants**
   DR. Dr. Murti Andriastuti, Sp.A(K) (Jakarta)

THE CLINICAL APPLICATION OF INVASIVE & NON-INVASIVE HEMODYNAMIC MONITORING

Joris Lemson

Abstract
For treatment of children in shock we have many therapeutic options. We can increase preload by delivering fluids but we can also increase contractility of the heart or raise blood pressure by administering vasopressor agents. However, in order to make the right choice we need proper and adequate information about the hemodynamic condition. For instance, is it a failing heart or hypovolemia? Unhappily, clinical signs and symptoms are of importance but do not provide us with enough information. Therefore, sophisticated monitoring tools are of great value. But what methods are available for (small) children, how reliable are they and what do the numbers tell us? Are these tools not only expensive but also lead us to even wrong conclusions? Do we really understand the underlying methods?

In the presentation we will discuss the usefulness of such devices and also describe various invasive and non-invasive monitoring tools. Furthermore, we will discuss what type monitoring could be appropriate for what kind of patient. Lastly, we will try to look into the future and try to picture what kind of tools are currently being developed for use in the near future.

HEMODYNAMIC MANAGEMENT OF CHILDREN WITH COVID-19: SEPTIC SHOCK MANAGEMENT IN 14-YO GIRL WITH COVID-19

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Abstract
In children, Coronavirus-19 (COVID-19), which is caused by SARS-CoV-2, is usually not severe. But lately, there have been reports of children with serious i llnesses who need to be hospitalized or die from COVID-19. This severe condition is mostly caused by serious respiratory problems, such as Acute Respiratory Distress Syndrome (ARDS). According to previous reports in china and united states, factors that influence the severity of the disease are age less than 1 year, underlying lung conditions and immunocompromised conditions. However, it turns out that the case series reports in the UK show that it is not only respiratory distress and children less than 1-year old that causes pediatric patients with COVID-19 to experience serious illness, but also circulatory emergencies, where 13 out of 30 children aged between 4 - 14 years who were referred had warm vasoplegic shock or acute abdominal and clinical conditions mimicking sepsis. Here we describe the hemodynamic management in a previously healthy child who admitted to the pediatric intensive care unit (PICU) for COVID-19-due to severe ARDS and septic shock. A-14-years-4months old girl referred from other hospitals with chief complaints of dyspnea and high fever with PCR nasopharyngeal and oropharyngeal swab for COVID-19 detected, seven days after hospitalization patient deteriorate quickly, with confirmed bacterial blood culture. We manage the patient using septic shock guidelines, guided by non-invasive hemodynamic monitoring.

INVASIVE HEMODYNAMIC MONITORING OF CHILDREN WITH COVID-19 INFECTION: A CASE WITH RARE PRESENTATION

Tartila

Background:
Related to COVID-19 in children, clinical manifestations widely ranging from the typical acute form as seen in adults to atypical form as known as a multisystem inflammatory syndrome in children (MISC). Consequently, the hemodynamic aspect in critically ill children with COVID-19 is unique and challenging in monitoring and treatment.
Aim:
To present invasive hemodynamic monitoring and management of children with COVID-19.
Case:
Invasive hemodynamic monitoring using arterial blood pressure (ABP) and central venous pressure (CVP) was performed in a girl, 2 years old, previously healthy children, presenting with severe symptomatic bradycardia. She was referred from another hospital with fever 4 days before admitted, confirmed COVID-19 and positive Ig-G SARS CoV-2. She was somnolent, heart rate 30-40 bpm, blood pressure 70/40 mmHg, respiration rate 30 rpm, and oxygen saturation swinging 85-88%. ECG showed third-degree AV block, and echocardiographic revealed poor contractility without other findings of the anatomical lesion. We gave nasal cannula oxygen supplementation, started epinephrine infusion 0.1 mcg/kg/min, methylprednisolone 2 mg/kg iv, fluid maintenance, and prepared for temporary pacemaker insertion. As additional monitoring for hemodynamic, we connected ABP and CVP to MostCare™ to obtain other real-time and continuing hemodynamic parameters in preload, afterload, and contractility based on pressure recording analytical methods (PRAM).
Conclusions:
Invasive monitoring is not routinely used, considering the risk and benefit for the patient. Careful monitoring was focused on the hemodynamic parameter's trend.

NON-INVASIVE MECHANICAL VENTILATION FOR RESPIRATORY FAILURE IN CHILDREN WITH COVID-19

Sri Martuti

Abstract
Cases of COVID-19 in children might have less amount and less severe than adults. The incidence of severe cases in pediatric patients was 1–5.2% and critical disease was 0.6–1.7%. The oxygen saturation below 92% in children with COVID-19 was in the range of 1 to 2.3% cases and very few required assisted-mechanical ventilation. But the invasive MV may have harmful effects, for example, ventilator-induced lung injury. Besides, pathophysiology and anatomical features of COVID-19-related lung infection are different from classic ARDS. So to limit intubation, non-invasive respiratory supports have been used to manage early acute hypoxemic respiratory failure (AHRF) caused by COVID-19.
Continuous Positive Airway Pressure(CPAP) or Bi-level NIV is recommended as a first-line approach rather than high flow nasal cannula (HFNC) in patients with SpO2/FiO2 more than 221 and below 264. Close monitoring should be done during 60-90 minutes and response to treatment has to be assessed. Tracheal intubation is recommended if no response to this treatment (SpO2 < 92% and/or FiO2 > 0.6). HFNC might

be considered as an option if CPAP/NIV is unavailable for patients with SpO2/FiO2 > 264 (FiO2 < .35 – .40). Successfully of HFNC if SpO2 92-97% with FiO2 < .40. If there is no improvement in oxygenation during 30-60 minutes, NIV or intubation should not be delayed. Indications of early intubation are : SpO2/FiO2 < 221, patients with hemodynamic instability, multi-organ failure, or abnormality in mental status.
The other concern of non-invasive respiratory support is safety. Using NIV would increase the risk of aerosol generation, so the guidelines suggested that NIV should be used in a single room, a negative-pressure ward, or a ward dedicated to the treatment of confirmed patients. And also more attention should be paid to the increased risk of virus transmission due to patients' exhaled air. Optimizing the interface might reduce the risk of virus transmission. Some guidelines suggested helmet interface should be the first choice because leaks are minimized; better tolerability and reduced room contamination and increase the safety of the associated with healthcare professionals. If the helmet is not available, we can use a non-vented oronasal or full-face mask. The other recommendation is using a double limb circuit (or a single limb with a filter before the leak site), appropriate with bacterial/viral filters, and also all the medical staff should wear full personal protection equipment to decrease the risk of virus transmission.

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DEBATE ON NON-INVASIVE VENTILATION FOR ACUTE RESPIRATORY FAILURE: (CON)

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Abstract

Coronavirus disease-19 (COVID-19) in pediatric patient represents 1 – 5% of all cases with the risk for developing critical illness is much lower than in adults. [1] Data from Indonesia showed that the incidence was 12.3% , higher than other countries, with mortality rate 1.3% and case fatality rate 0.28%. [2] Acute respiratory distress syndrome (ARDS) is one of the common presentation of critical illness due to COVID-19, manifest as pulmonary inflammation, alveolar edema, and hypoxaemia respiratory failure. Pediatric Acute Lung Injury Consensus Conference (PALLIC) defined ARDS as worsening respiratory symptoms 1 week after disease onset with new opacities on chest imaging not explained by cardiac failure or volume overload and with a partial pressure of oxygen (PaO_2) to fraction of inspired oxygen (FiO_2) ratio (P/F) ≤ 300 mm Hg, or an SpO_2/ FiO_2 (S/F) < 264 during noninvasive ventilation, or an oxygenation index > 4, or an oxygen saturation index (OSI) > 5 during invasive mechanical ventilation.[3,4] The consensus recommended to stratify severity of ARDS based on oxygenation deficit as mild, moderate and severe. High Flow Nasal Cannula (HNFC) has been recommended for COVID-19 patients with mild ARDS whereas continuous positive airway pressure (CPAP) or Bi-level Non-Invasive Ventilation (NIV) for patients with moderate ARDS. Adequate precaution should be provided while using NIV methods, such as: Level 3 personal equipment for team, double circuit (inspiratory and expiratory limbs) NIV devices, isolation room with negative pressure and proper interfaces (full face, oronasal or helmet). The benefit of using NIV must be balanced against unknown risk of airborne transmission. The potential transmission from patients to healthcare workers has caused concern particularly among patients requiring advanced respiratory support, high flow rate of oxygen, or aerosol-generating procedures. In early pandemic era, Of 138 patients who were hospitalized with confirmed COVID-19 in Wuhan, 29% were healthcare workers who were presumed to have contracted the viruses in hospital, and one of the causes was suspected from NIV as aerosol generating procedure. Although in adult population HFNC and NIV have demonstrated to be beneficial, studies on the applicability of NIV in pediatric patients are not yet available in the literature. HFNC and NIV without closed monitoring may lead to a delay in invasive ventilation. Prolonged NIV with excessive respiratory effort may be a cause of pulmonary damage, a strict failure criterion should be implemented so that treatment is not extended and invasive support can be initiated. [1,5] Endotracheal intubation should be performed as soon as possible in patients who tend to a worsening SF, progressive respiratory distress, high oxygen levels (> 60 %) in HFNC/NIV, altered sensorium or multiple organ failure. Management of COVID-19 ARDS needs to be tailored to patient's clinical presentation and the type of hypoxaemia as well as responds to therapies administered. COVID-19 related ARDS in adult population is characterized by marked hypoxaemia and relatively adequate respiratory mechanics, with two clinical presentations: L phenotype, this type has good pulmonary compliance, where lung volume is high, recruitability is minimal, and hypoxaemia is the result of the loss of vasomotor tone and reflex vasoconstriction. H phenotype behaves more like typical ARDS and shows low pulmonary compliance. According to this interpretation, different recommendations were made based on pathophysiology. [5,6,7] For high compliance (L phenotype) it is suggested using PEEP around 8 cm H_2O for infants, toddlers, and preschoolers, and PEEP around 10 cm H_2O for children older than 6 years. The tidal volume should be approximately 6–8 mL/kg of predicted body weight (PBW) and up to 8–9 mL/kg PBW may be tolerated. Inspiratory time should be age-appropriate with a decelerating flow. The plateau pressure should be as low as possible, maintaining adequate PEEP and maximum driving pressure of 15 cm H_2O. The respiratory rate should be sufficient to maintain a pH >7.25, and inspired oxygen fraction (FiO_2) should be <60%. It is not recommended using recruitment

maneuvers for these types of patients. Patients with low compliance (H phenotype) should be managed using protective ventilation. It is recommended using pressure-controlled ventilation with a tidal volume of 4–6 mL/kg PBW, initial PEEP around 10 cm H_2O and titrated up to 12 cm H_2O, excessive amounts of fluids may influence adequate PEEP titration. The plateau pressure should be <30 cm H_2O, FiO_2 <60% and the inspiratory time should be age-appropriate with a decelerating flow and respiratory rate sufficient to maintain a pH >7.25. It is recommended using permissive hypercapnia (pH >7.20), with monitoring of PCO_2 by capnography. Goal SpO_2 is 93–96%, as supra-physiologic arterial oxygen saturation may be associated with higher mortality. [1,7] Best practice in the management of pediatric COVID-19 ARDS is lacking compared to adult, requires individualized titration of both noninvasive and invasive ventilation modalities with consideration of preserved pulmonary compliance. [8]

Keyword: Pediatric patients with Covid-19, Respiratory Support, Non-invasive mechanical ventilation, Invasive mechanical ventilation

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PRACTICE RECOMMENDATION FOR THE VENTILATOR MANAGEMENT OF CHILDREN WITH SUSPECTED OR PROVEN COVID-19 INFECTIONS

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Abstract

Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) is the cause of Coronavirus disease 19 (COVID-19). [1] SARS-Cov-2 has a very high transmisible capability and is highly pathogenic. This has led to a pandemic with a broad multidisciplinary impact. [2] COVID-19 can affect children in all age groups, and the incidence of children with COVID-19 is <5% of the total cases. The mortality rate for children suffering from COVID-19 is <0.1% of the total death cases. This is much lower than the adult mortality rate. The mortality rate for adult patients with COVID-19 is 5-15%. [1, 3, 4] The incidence of COVID-19 in Indonesian children is 12.3% of the total cases, and the child mortality rate due to COVID-19 in Indonesia is 1.3% of the total death cases. The incidence and mortality rate for Indonesian children due to COVID-19 is much higher than that of other countries. [5] In some literature, it is stated that clinical children with COVID-19 are less serious than adults. [4, 6] Although most cases of COVID-19 in children have mild clinical symptoms, 2% of COVID-19 cases have severe clinical symptoms and <2% of children suffering from COVID-19 are critically ill. The incidence of desaturation with an oxygen fraction <92% in children with COVID-19 was 1-2.3%, 8% of children indicated for PICU entry and 4% needed mechanical ventilation assistance. [7-9] Therefore, recommendations for the use of mechanical ventilation in children with COVID-19 are needed. The Pediatric Mechanical Ventilation Consensus Conference (PEMVECC) and Pediatric Acute Lung Injury Consensus Conference (PALICC) recommend the use of Continuous Positive Airway Pressure (CPAP) or Bi-Level Non-Invasive Ventilation (NIV) as first-line oxygen therapy in pediatric patients with COVID-19 who experienced ARDS with SpO2 / FiO2> 221 and <264. CPAP or Bi-Level Non-Invasive Ventilation (NIV) is recommended compared to High Flow Nasal Cannula (HFNC). HFNC is considered as a treatment option if CPAP / NIV is not available for patients with SpO2 / FiO2> 264 (FiO2 <0.35-0.40). Intubation should be done immediately if the patient has been given oxygen therapy with CPAP / NIV (target SpO2 92-97% and FiO2 <0.6) for 60-90 minutes there has been no improvement and during monitoring the patient has SpO2 / FiO2 <221. If the patient is using HFNC, intubation should be done if after 30-60 minutes of using HFNC (target SpO2 92-97% with FiO2 <0.4) there is no improvement. Patients using ventilated invasive therapy are recommended lung protective ventilation with Vte 5-7 ml / kg ideal bodyweight, Pplat <28-32 cmH2O, driving pressure ≤ 15 cmH2O. Low tidal volume is required in lungs that are poorly compliant. Positive End Expiratory Pressure (PEEP) starts with 10 cmH2O and may still be increased. [10] Other literature recommends oxygen therapy in critically ill patients based on 2 types of lung damage, type H (high elastance, low compliance) and type L (low elastance, high compliance). Non-invasive ventilatory respiratory support (NIV) is recommended in pediatric patients with moderate acute respiratory failure and High Flow Nasal Oxygen Therapy (HFNO) is recommended in pediatric patients with mild acute respiratory failure. Invasive Ventilation in patients with COVID-19 who have lung damage (High elastance type, Low compliance) is recommended to use PEEP 10-12 cm H2O, Tidal Volume 4-6 ml / kg, ΔP <15 cm H2O, Pplateu <30 cm H2O, FiO2 <60%. Whereas in patients with COVID-19 who have lung damage (Low elastance type, High compliance) it is recommended to use invasive ventilation with a PEEP setting of 8-10 cm H2O, Tidal Volume 6-8 ml / kgBW, ΔP <15 cm H2O and FiO2 < 60%. [11, 12] Although several centers have recommended respiratory support strategies in pediatric patients with COVID-19, no setting for mechanical ventilation is superior. A clinician must carry out oxygen therapy with an individual approach to each patient.

Keyword: Pediatric patients with Covid-19, Respiratory Support

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BETTER UNDERSTANDING OF HIGH FREQUENCY OSCILLATORY

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Abstract
High Frequency Oscillatory Ventilation (HFOV) is a very efficient mode of ventilation to aid gas exchange in the lungs. The characteristic of this ventilation mode is low tidal volumes and constant mean airway pressures in conjunction with high respiratory rates to provide beneficial effects on oxygenation and ventilation, while eliminating the traumatic "inflate–deflate" cycle that can happen by the using of conventional mechanical ventilation (CV).
Currently, HFOV is often utilized as a rescue strategy when CV has failed. High-frequency oscillation is a safe and effective rescue mode of ventilation for the treatment of acute respiratory distress syndrome (ARDS). All patients who have ventilator-induced lung injury (VILI) or are at risk of developing VILI or ARDS would be suitable candidates for HFOV.
The strategy for the initial setting of HFO ventilation (frequency, amplitude, mean airway pressure, etc.) differs depending on the pathology of the infant's lung abnormality. Adjustment of settings and introduction of trouble shooting should be done regularly to avoid side effects of using HFO such as hypocarbia, pulmonary over distention, pneumothorax, etc. It is important for a neonatologist to know and learn about the correct way of giving HFO to neonates. With the development of technology, there are developments in how to provide HFO modes such as volume targeted HFO and HFO in combination with mechanical ventilation, which in application is slightly different from standard HFO.

RECOMMENDATIONS FOR NEONATAL SURFACTANT THERAPY: WHEN AND HOW

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Abstract
Respiratory distress syndrome (RDS) is an important cause of disease and death in preterm infants caused by deficiency or dysfunction of pulmonary surfactant. It is commonly treated with a medication called surfactant. Surfactant therapy can be administered with two ways, an endotracheal tube (intubation, surfactant administration and extubation/ INSURE) or using non-invasive respiratory support (minimally invasive surfactant therapy/MIST). Surfactant administered when the PaCO2 > 60 mmHg with pH level < 7,25 or FiO2 > 30 mmHg. It may given as early as 2 hours of life and can be repeated as early as 2h after the initial dose or 4-6h after the initial dose.
Research from Cochrane (2021) about the administration of surfactant concluded that administration via thin catheter compared with administration via an ETT is associated with reduced risk of death or BPD, less intubation in the first 72 hours, and reduced incidence of major complications and in-hospital mortality. This procedure had a similar rate of adverse effects as surfactant administration through an ETT. Data suggest that treatment with surfactant via thin catheter may be preferable to surfactant therapy by ETT.
Journal of perinatology (2021) research's about characteristics and outcomes of preterm neonates according to number of doses of surfactant received found that those who received single or multiple doses of surfactant had higher odds of mortality and major morbidities, including severe brain injury, BPD, and severe retinopathy, than those who did not receive surfactant.

MANAGEMENT OF CONGENITAL DIAPHRAGMATIC HERNIA: A HEMODYNAMIC UPDATE

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Abstract
Congenital diaphragmatic hernia (CDH) is characterized by a defect in diaphragm which leads to protrusion of abdominal content into thoracic cavity causing abnormal development of the lungs. CDH is still associated with high morbidity and high mortality despite the advance of neonatal intensive care and extra corporeal life support. Pulmonary hypertension (PH) and pulmonary hypoplasia are key structural and pathologic components of CDH that have been well characterized as determinant of outcome.
Pulmonary hypertension in CDH is difficult to manage and not fully responsive to inhaled nitric oxide. Pulmonary hypertension is the result of interaction of pulmonary vascular disease, lung hypoplasia, and left ventricular (LV) hypoplasia or dysfunction. There is growing evidence that LV dysfunction is a critical determinant of mortality. In CDH infant, pulmonary vascular resistance (PVR) chronically elevated which may predispose to right ventricle (RV) dilatation and dysfunction. Septal displacement due to increase pressure of RV may impair LV function. Biventricular dysfunction then may cause systemic hypotension and hypoperfusion. Early and regular echocardiographic assessment of cardiac function and pulmonary artery pressure can guide therapeutic decision-making.
Management of infant with CDH may be different between neonatal centers. Standardized care may improve outcome in CDH. Clinical published guideline for instance, from EURO consortium and Canadian CDH collaborative can be used as an evidence-based guide to standardize CDH care practices. These guidelines include prenatal risk classification, early stabilization, ventilatory support, hemodynamic and general support, timing of surgery, and long-term follow up. However, these guidelines needs to be adjusted to local center resources since many treatment modalities including inhaled nitric oxide and extra corporeal life support are not widely available in Indonesia.

HOW TO APPLY ECHOCARDIOGRAPHY IN CLINICAL PRACTICE IN NICU

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Abstract
Hemodynamic problems are the second most common problem faced by neonatologist besides shortness of breath. Neonatal hemodynamic problem are often asses and diagnose in late phase, so that hemodynamic instability outcome can't be unavoidable. To asses and diagnose haemodinamic problem in neonate by only on clinical grounds can't be free from bias. It will difficult to determine the underlying pathophysiology that cause instability even if the hemodynamic problems are detected.
Functional echocardiography is a non invasive examination tool that performed bedside by a neonatologist and very helpful in determining and monitoring hemodynamic problems. Functional echocardiography is the gold standard for assessing hemodynamic status in real time, so that it can be assessed whether the neonate's hemodynamic status is good enough or not. Functional echocardiography Information from the echo device is useful for assessing and monitoring in heart anatomy directly as a pump (cardiac function), assess systemic blood flow, cardiac systolic and diastolic function (adequate blood flow), pulmonary blood flow and target organ blood flow. The accuracy and reliability of functional echocardiography as a diagnostic tool is the best after cardiac MRI compared to other non-invasive hemodynamic monitoring.
The information from functional echocardiography can be used by nenatologist to provied target treatment for neonate such as need of fluid resuscitation or choosing inotropic or vasopressor support.

DEVELOPMENTAL CARE: CREATING A STRESS FREE NICU ENVIRONMENTAL

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Abstract
Developmental care is commonly implemented in the NICU as neuroprotection for preterm infants against the extrauterine environment, such as protected sleep, swaddled bathing, skin to skin care (kangaroo care), supportive position (supine) and stress and pain management before, during and after every medical procedures. Not only that the AAP 2013 states that background noise in the NICU should not exceed a volume of 45 to 50 decibels, with transient sounds not to exceed 65–70 decibels . Cochrane 2021 study compare the effects of silicone earplugs versus no earplugs, and condcluded that there was a significant difference in Mental Developmental favouring the silicone earplugs group at 18 to 22 months corrected age, but not for Psychomotor Development Index.
The AAP (2013) also recommends that lighting in the NICU reach not more than 40 watt. Frontiers recommends to do a light adjusment, because an exposure to a bright day and dark night seems to positively influence weight gain, duration of hospital stay.
In addition to reducing noxious noise, lights, and smells in the physical environment, NICU nurses can also encourage families to provide positive sounds, sights, and smells for their infants. Maternal odors provided by breastmilk and scent cloths provide comfort and physiologic stability to NICU infants
Journal of Child Health Care (2018) state positive effects were observed for language, motor, and cognitive development up to 18 months as well as IQ up to 5 years as result of an early developmental care interventions for preterm babies.

EXTREMELY LOW BIRTH WEIGHT SKIN CARE MANAGEMENT

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Abstract
Skin is the largest organ in the human body with vital functions such as barrier integrity, thermoregulation, immunological function, protection from invasion of microbes and ultraviolet rays. The skin of a newborn or an infant is different from the adult skin. Neonatal skin is immature at birth, and slowly approaches adult function. Skin immaturity places neonates at risk for injury in the NICU. Neonatal skin is more vulnerable to infections, immature immune system, invasive tubes and catheters, frequent use of antibiotics, immature skin structure, immature skin function, excoriation and trauma, and changes in skin pH. Full barrier protection does not exist until 2-4 weeks in most infants and 8-9 weeks in VLBW infants. The risks of underdeveloped skin include: infections, skin irritation, increased water loss, increased absorption of toxins, and epidermal skin stripping. NICU care exposes immature skin to risks: toxicity from skin disinfectants, damage from pressure injuries, stripping from medical adhesives, acid mantle disruption from bathing. The goals of skin care management is to maintain skin integrity and reduce traumatic injury, avoid exposure to toxins, and minimize exposure to irritants. The skin care management including nappy care, eye and oral care, bathing principles, the use of adhesive disinfectants, umbilical cord care and emollients. There are special recommendations made for premature infants.

CLINICAL MANAGEMENT OF CHILDREN WITH COVID-19 ADMITTED TO PEDIATRIC INTENSIVE CARE UNIT

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Abstract
Coronavirus disease-19 (COVID-19) in pediatric patient represents 1 – 5% of all cases with the risk for developing critical illness is much lower than in adults. [1] Approximately 6 % of cases present with a severe course, accounting for patients younger than 1 year and/or with underlying conditions. Based on clinical characteristics, lab tests, and chest X-ray, severe COVID-19 is defined when we found early respiratory symptoms (fever and cough) that maybe accompanied by gastrointestinal symptoms (diarrhea), progress over approximately 1 week with dyspnea and central cyanosis (SpO_2 below 92%), whereas critical COVID-19 is defined when there were rapid progression to ARDS, patients may also develop shock, encephalopathy, myocardial injury or heart failure, coagulation disorder, and acute kidney injury. Indications for admission to the pediatric intensive care unit (PICU) are: severe acute lower respiratory tract infection (severe pneumonia and ARDS) or extra-pulmonary manifestations associated with severe conditions and/or progressive worsening (Coagulation disorder, myocardial damage, gastrointestinal dysfunction, high liver enzymes, rhabdomiolysis), sepsis and setic shock.[2] Patients with severe and critical COVID-19 appear to have cytokines storm profile similar to hemophagocytic lymphohistiocytosis.[3] Multi-system Inflammatory Syndrome in Children (MIS-C) has also been described with presentations range from mild inflammation to severe shock with multi-organ involvement requiring care in the PICU.[4] Basic rule on managing patient with suspected or proven COVID-19 in PICU is "Protect our self and our team" so full personal protective equipment (PPE) should always be worn and aerosol generating procedures (AGPs)

are high-risk interventions and must be reduced to an absolute.[5] There are some recommendations for respiratory support at PICU such as: Strict personal protection equipment when managing patients, especially when handling airways, assure an adequate seal of the inter-phase for noninvasive ventilation, use cuffed ETTs for invasive ventilation, use bacterial/viral filters (high-efficiency particulate air filter) on the expiratory limb of the patient circuit, minimize ETT disconnections and use inline, closed suctioning, use airway humidification (active or passive), and beware of endotracheal tube occlusion due to plugging caused by tenacious secretions. Intubation should be performed by an expert in airway management in a closed environment with minimal staff present. Video laryngoscopy, rapid sequence induction, and avoiding bag/mask ventilation are recommended. For patients requiring mechanical ventilation, positive end expiratory pressure (PEEP) titration should be individualized to each patient and their phase of ARDS, prone position should be considered in patients with severe /refractory hypoxaemia. Patients suffer from shock without hypotension, no fluid bolus should be administered, and maintenance fluids should be initiated. Patients with hypotension, administer bolus fluids, 10–20 ml/kg per bolus up to 40 ml/kg, over the first hour of resuscitation. For patients diagnosed with fluid refracter shock, epinephrine or norepinephrine should be administered, instead of dopamine. Diluted solution can be initiated through a peripheral intravenous catheter if central venous access is not available. Inodilators such as milrinone, dobutamine or levosimendan could be used when there are signs of tissue hypoperfusion and cardiac dysfunction despite high doses of catecholamines, and consider anti-inflammatory doses of glucocorticoids for refractory shock. Subcutaneous enoxaparin should be given for patients with high risk venous thromboembolism (VTE). There is still insufficient evidence for convalescent plasma treatment, and be offered only within a research. In patients with MIS-C, supportive management and advanced monitoring should be provided, early ECG and echocardiography for cardiac function and coronary flow should be completed. Medications to consider for management of MIS-C include solumedrol, intravenous immunoglobulin (IVIG), anticoagulants, and biologics agents such as anakinra, an IL-6 inhibitors, should be based on patient's severity of illness using a multidisciplinary approach.

Keywords: Critical COVID-19, management, PICU, respiratory support, hemodynamic support, MIS-C.

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QUALITY IMPROVEMENT IN NEONATAL RESUSCITATION

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Abstract

Common causes among neonatal deaths worldwide were infection, preterm, and asphyxia at birth. Neonatal resuscitation requires significant quality improvements, for it may increase survival rate and reciprocally reduce the risk of disability due to non-optimal resuscitation. With the intention of achieving adequate resuscitation targets without complications, various things need to be considered critically. Avoiding the risk of oxygen toxicity due to the liberal supplementation of 100% oxygen and taking notice of measured oxygen saturation targets are mandatory. In the fifth minute of resuscitation, the oxygen target is 80% which will then maintained at 90-95%. Therefore, the risk of necrotizing enterocolitis, bronchopulmonary dysplasia, and retinopathy of prematurity will be eventually diminished. Adequate and controlled pressure are needed to avoid pneumothorax. Improving the quality of resuscitation requires skilled, certified and competent human resources. Thus, every healthcare facilities need an adequate team of personnel. Apart from the team, sufficient equipment and preparations are also crucial. Minimum requirements for resuscitation preparations are necessary, in spite of the limitation of infrastructures in peripheral areas of Indonesia. A national algorithm of neonatal resuscitation as a reference has to be prepared. An adaptation of the algorithm towards Indonesia's human resources, settings of developing countries, and geographic conditions must be done, hence it can be applied in any regional setting accordingly. Nevertheless, continuous training and refreshment in every unit, implementation of debriefing for each resuscitation, and certification are important to deliver high-quality neonatal resuscitation.

FEEDING CHALLENGES IN THE LATE PRETERM INFANTS

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Abstract

Newborn infants are defined as premature when birth takes place before 37 weeks of gestation. Late-preterm birth is defined as birth between 34 weeks and 36 6/7 weeks of gestation and accounted for 70% of all preterm births. Premature birth is known to place infants at increased risk for morbidity and death compared with infants who are born at term. Late preterm infants have various complications such as hypoglycemia, respiratory distress syndrome (RDS), thermal instability, apnea of prematurity, hyperbillirubinemia, feeding difficulties, neonatal sepsis and extra uterine growth restriction (EUGR). Appropriate medical management including nutritional support is crucial to overcome acute and chronic complications in preterm infants.

Late preterm infants are prone to develop hypoglycemia like majority preterm because of low total body fuel stores, inadequate dietary intake and tendency to be affected by others conditions such as cold stress and sepsis. Marvin et all in 2004 found that low blood sugar was 3 times more often in late preterm. Infants with blood glucose value of <40 mg/dL, nearly two thirds of the group required treatment with intravenous dextrose, whereas the remaining were able to resolve initial hypoglycemia with early feedings. Nutritional support in late preterm infant could be started by total parenteral nutrition (TPN) or enteral depend on clinical conditions and ability to feed. Feeding difficulties, related to mother and neonatal reasons, have been reported to occur with high frequency in late preterm babies. These difficulties definitely cause increase need for TPN, infusion therapy, tube feeding leading to prolong length of stay. Gianni et al in

2015 reported 592/1768 late preterm infants requiring a nutritional support (33,5%). Out of the patients requiring nutritional support 228 developed respiratory distress syndrome, 149 infants were born small for gestational age (SGA), 100 infants had poor feeding, 80 had hypoglycemia, 24 infants underwent surgery and others had sepsis, cardiac diseases and chromosomal abnormality. Among infants need nutritional support 76 % were feed with formula whereas only 24 % were feed with any human milk. At discharge 63,3 % of the infants were feed with any human milk and 18 % were feed with exclusive breast milk. This study conclude that late preterm infants are at relative risk of requiring nutritional support during hospital stay, especially if they have a birth weight < 2000 gram, gestational age (GA) < 34 weeks, SGA, had RDS and required surgical intervention.

The goal of nutrition of the preterm infant is to provide nutrients to reach the growth rate and body composition of the normal healthy fetus of the same gestational age in terms of weight, length, and head circumference, organ size, tissue components including cell number and structure, concentration of blood and tissue nutrients, and developmental outcomes. Failure to provide the necessary amounts of all the essential nutrients to preterm infants has produced not only growth failure or extra uterine growth restriction (EUGR) but also increased morbidity and less than optimal brain growth that would limit neurodevelopment. Extra uterine growth restriction is commonly defined as a growth measurement that is <10th percentile of the predicted value at the time of hospital discharge. Clark et al reported 28 % of EUGR in a population of infants with birth weight <2000 and GA ≤34 weeks. This several studies about late preterm and feeding difficulties encourage neonatologist to give more attention and understanding more about nutritional support in these group infants.

NUTRITIONAL MANAGEMENT IN PRETERM INFANTS: WHAT'S NEW?

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Abstract

Preterm babies have a profound risk for failure of growth and development. Nutrition interventions are of substantial need for these babies and especially must be conducted as early from the babies born. Extra-uterine growth restriction (EUGR) is common in very preterm infants. Inadequate postnatal nutrition is an important factor contributing to growth failure, as most very preterm infants experience major protein and energy deficits during neonatal intensive care unit hospitalization.

During care in the NICU, pediatricians must be able administer aggressive enteral and parenteral nutrition to prevent extra-uterine growth restriction. Standardized feeding protocol (SFPs) address a consistent approach to the: (1) preferred feeding substance; (2) advancement and fortification of feeding; (3) criteria to stop and specifying how to re-start feedings once held; (4) identification and handling of feeding intolerance; and (5) initiation and duration of trophic feeding. SFPs are simple, inexpensive, effective, and transmissible methods for prevention of postnatal growth restriction in premature infants.

To reach the optimal growth for preterm infant, we must know the choices of enteral feeding. Human milk is the best choice but human milk alone may not be able to comprehensively provide the preterm infants' requirement of proteins, energy, minerals, vitamins, and trace elements so the preferred nutrition for premature infants is fortified human milk. If maternal or donor human milk is not utilized or sufficient to meet required feeding volumes, formula feedings can be initiated. Then, we must know about the enteral feeding advancement on the next day and also the contraindication of enteral feeding.

LIPID RESTRICTION IN CRITICALLY ILL NEONATES: EVIDENCES AND CONTROVERSIES

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Abstract
Preterm infants have limited endogenous lipid stores. Parenteral lipids are an attractive source of nutrition in critically ill infants because of their characteristics of high energy and isotonicity. Lipids also become an important source for gluconeogenesis and help the delivery of the lipid soluble vitamins A, D, E, and K. A short delay of 3–7 days in supplying lipids to preterm infants can lead to biochemical essential fatty acid (EFA) deficiency. Pre- and postnatal EFA deficiency can reduce body and brain weights, resulting in impaired neuronal development and function.
Despite the adoption of a more aggressive approach with amino acid infusions, there is still reluctance to the early use of intravenous lipids. This is based on several dogmas that suggest that lipid infusions may be associated with the development or exacerbation of lung disease, displace bilirubin from albumin, exacerbate sepsis, and thrombocytopenia. Generally, there were no differences in morbidities or adverse outcomes with early high lipid administration. Early initiation of parenteral lipids and high dose achieved within the first 24 hours of life appear to be safe and endurable and offer benefits in terms of growth.
Here, we would like to provide an overview of the importance of lipid, the evidences and controversies of lipid restriction in critically ill neonates, safety and efficacy of parenteral lipid in preterm infants, type of intravenous lipid emulsions (ILEs) also the dosage and monitoring of intravenous lipid.

THE ROLE OF PHOSPHATE SUPPLEMENTATION: PREVENTION OF OSTEOPENIA OF PREMATURITY

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Abstract
Phosphorus is one of the main constituents of human skeletal system, 85% of total body phosphorus. It plays important role in endochondral bone development such as apoptosis of chondrocytes and formation of osteoid. During the third trimester; between 24 and 37 weeks gestational age, 80% of the mineral accretion is achieved.
Most extremely preterm infants (<32 weeks gestation) require support with parenteral nutrition (PN) due to complex factors as : metabolic "immaturity", delay in establishing enteral feeds and solubility issues with PN solutions which mean it is impossible to provide sufficient mineral via the parenteral route alone. The function and activity of osteoblasts and osteoclasts are influenced by the availability of minerals before birth.
The early introduction of AA in the PN soon after birth might be completed by an early intake of phosphorus, since AA and phosphorus are (along with potassium) the main determinants of cellular growth. Adequate protein content is required to modulate the solubility and pH of the parenteral nutrition solution and thus allow optimal calcium and phosphate content. Low serum phosphate concentration reduces apoptosis of terminally differentiated hypertrophic chondrocytes in the growth plates causing failure of mineralisation and is thus the end point causing rickets in both calcipaenic and phosphopaenic states. ESPGHAN/ESPEN/ESPR/CSPEN guidelines on pediatric parenteral nutrition (PN) recommend for calcium and phosphorus intake in preterm infants during the first days of life on parenteral nutrition. NICE guidelines 2020 showed greater bone mineral density in babies who received TPN with sodium glycerophosphate compared to babies who received TPN without sodium glycerophosphate.

THE EFFECT OF ZINC SUPPLEMENTATION ON THE LINEAR GROWTH OF PRETERM INFANTS

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Abstract

Zinc, is an essential micronutrient distributed throughout the body, and has many critical effects for child growth. Zinc participates in cell division and growth, intestinal electrolyte absorption, neurotransmission, immune response, enzymatic catalysis or stabilization, and functional modification of membrane proteins, gene-regulatory proteins, and hormonal receptors.

During the third trimester of pregnancy, accretion of protein, glycogen, fat-soluble vitamins, minerals, and trace elements occurs. In preterm infants risk of zinc deficiency increased, during the postnatal period of rapid growth. They are born with low stores in zinc, experience significant energy and nutrient deficit due to inadequate nutritional intake along with comorbid disease, incomplete digestion and absorption in the immature gastrointestinal tract, and limited reserves of trace elements. Zinc deficiency is a large public health issue among children which may lead to stunting (growth failure) due to the negative effect on the endocrine system, alterations in cognitive development, delayed wound healing, and immune dysfunction. Increasing morbidity and mortality due to infectious diseases.

In Ji Min Cho et al study, which administered oral supplementation of zinc sulfate (22 mg dose) in non-organic failure to thrive (NOFTT) infants improves serum zinc status, regardless of gestational age at birth. Zinc supplementation in NOFTT infants born at term may improve serum IGF-1 levels and growth, but it does not in NOFTT infants born preterm. Overall nutritional support rather than supplementation of a single nutrient may be more effective for catch-up growth in NOFTT infants born preterm.

Another study from Cochrane review 2021, conclude that enteral supplementation of zinc in preterm infants compared to no supplementation or placebo may moderately decrease mortality and probably improve short-term weight gain and linear growth, but may have little or no effect on common morbidities of prematurity. Similar study was held in Cipto Mangunkusumo Hospital Jakarta, comparing preterm babies who received 10 mg zinc supplementation and babies who don't, resulting better growth velocity in body weight but not statistically significant in body length and head circumferences.

Organized in Collaboration By
- Pediatric Emergency & Intensive Care Working Group (ERIA)/ Indonesian Pediatric Society (IDAI)
- Neonatology Working Group/Indonesian Pediatric Society (IDAI)

FACULTY RESUME

12th Indonesian PICU NICU Update is entering the Virtual World for 2021

12TH VIRTUAL INDONESIAN PICU NICU UPDATE

"Improving Management of Pediatric and Neonatal Emergencies: Recognition and Prompt Management in Critically ill Patients"

Fridays on 04, 11, 18, 25 June 2021
https://picunicu.org/annual-conference/

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VIRTUAL 12th INDONESIAN PICU NICU UPDATE

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Educational Background

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- Residency; Pediatric Critical Care Medicine, Faculty of Medicine University of Indonesia (1984-1992)

Latest Position

- Member of SCCM (Society of Critical Care Medicine) - (1997-Present)
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Latest Position

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- Statistic dan Health Demography, Mahidol University, Thailand (2009)
- PhD, Universitas Airlangga, Surabaya – Indonesia (2013)

Latest Position

- Chairman of Growth and Development – Social Pediatrics Working Group, Indonesian Pediatric Society
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- Bachelor of law, Faculty of Law, Lambung Mangkurat University, Banjarmasin (2004-2007)
- Dr., Faculty of Medicine, Brawijaya University, Malang (2008 – 2012)
- Neonatology fellowship and training course, Jakarta
- Professor, Lambung Mangkurat University (2015)

Latest Position

- Head of Department, Departement of Child Health, Medical Faculty of Lambung Mangkurat University-Ulin General Hospital, Banjarmasin (1997 – 2007)
- Head of Department, Bioethic and Humaniora, Lambung Mangkurat University (2019-2020).
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- Spesialis Ilmu Kesehatan Anak, Fakultas Kedokteran Universitas Padjadjaran 1992 – 1995
- Training of Neonatal Screening di Sapporro, Jepang 2001
- NICU Clinical Attachment di Kuala Lumpur, Malaysia 2004
- Konsultan Neonatologi, 2008

Latest Position

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- Clinical Training in Medical Genetics; Clinical Genetics Center – Utrecht (2000)
- Certificate Kinderarts Metaboleziekten, Wilhelmina Children Hospital,
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- Professor in Paediatric Nutrition and Metabolic Disease. Faculty of Medicine, University of Indonesia (2019)

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- Doctoral, Faculty of Medicine, Universitas Padjajaran (2014)

Latest Position

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- Head of Neonatology Unit, RSUD Arifin Achmad Pekanbaru (2009 - 2021)

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- Spesialis Anak, Fakultas Kedokteran Universitas Indonesia (2007)
- Fellowship in Pediatric Allergy Immunology (NUH, Singapore) (2012)
- Konsultan Alergi Imunologi, Kolegium Ilmu Kesehatan Anak Indonesia (2013)

Latest Position

- Ketua Satgas HIV Ikatan Dokter Anak Indonesia (2014-sekarang)
- Sekertaris Komisi Akreditasi Kolegium Ilmu Kesehatan Anak Indonesia (2014-sekarang)
- Anggota Asia Pacific Academy of Pediatric Allergy, Respirology and Immunology (2014-sekarang)
- Board Mamber Asia Pacific Society for Immunodeficiency (2015-sekarang)
- Anggota European Academy of Allergy and Clinical Immunology (2018-sekarang)
- Pengurus Pusat Perhimpunan Alergi Imunologi Indonesia (2018-sekarang)
- Sekertaris UKK Alergi Imunologi Ikatan Dokter Anak Indonesia (2008 – 2014)

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- Pendidikan Dokter Subspesialis , Fakultas Kedokteran Universitas Indonesia (2020-sekarang)
- Clinical Observership, Cincinnati Children's Hospital Medical Center, Cincinnati (2019)
- Clinical Observership, Boston Children's Hospital, Boston (2019)

Latest Position

- Staf Divisi Perinatologi RSCM (2017 – sekarang)
- Staf Divisi Perinatologi RS Universitas Indonesia (2019 – sekarang)
- Sekretaris Satgas Stunting IDAI (2020 – sekarang)
- Tim Pendukung Komite Website IDAI (2017 – sekarang)

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- Consultant Neonatologist (SpAK); Colegium IDAI (2011)

Latest Positions

- Chief of Pediatrician Medical Staf, RSUP dr Kariadi Semarang (2016- Now)
- Chief of Neonatology Division RSDK/ FK Undip Semarang (2016- Now)
- Training Team Coordinator ; Perinasia (2016 - Now)
- Member of Vaccinology TF ; indonesian Pediatric Society(2015 - Now)

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Educational Background

- Bachelor in Medicine, University of Sumatera Utara (1978)
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- Pediatrician, University of Sumatera Utara (1988)
- Consultant of Neonatology (1994)
- Fellowship Program of Pediatrician University of Tokyo (1989)
- Preoverseas training, Fakultas Paska Sarjana ITB – Bandung (1989)
- Training in Neonatology, Universitat Ulm Jerman Barat (1991)

Latest Positions

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- Fellowship at Pediatric Intensive Care Division, Child Health Department, Indonesian University, Cipto Mangunkusumo Hospital, Jakarta (2007-2009)

Latest Positions

- Head of Department of Child Health, Udayana University, Sanglah Hospital (Present)
- Head of Pediatric Intensive Care Division, Department of Child Health, Udayana University, Sanglah Hospital (Present)

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Educational Background

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- Training in Pediatric Endocrinology, Vrije Universiteit Utrecht, The Netherland (1990-1992)
- Training in Clinical Genetic, KGCU, Utrecht, The Netherland (1991)
- Consultant in Pediatric Endocrinology (1993)
- Ph.D, Free University, Amsterdam, The Netherland (2006)
- Professor in Pediatric. University of Indonesia, Jakarta, Indonesia (2011)

Latest Positions

- Lecturer, Pediatric Department,Faculty of Medicine, University of Indonesia – RSCM (1987-present)
- Bussiness Manager, Medical Journal of Indonesia (2010 – present)
- IDAI Immunization Task Force (2011 – present)
- Chairman of YAPMEDI (2012 – present)

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Educational Background

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- Registration in Anesthesiology, Radboud University Medical Center. Board Certificate (1997)
- Registration in Intensive Care, Radboud University Medical Center (1999)
- European Diploma in Intensive Care (EDIC) (1999)
- Doctorate, Radboud University Medical Center, 2010

Latest Positions

- Medical Director Pediatric Intensive Care Unit, Radboud University Medical Center (2008 – Present)
- Consultant Department of Intensive Care Medicine for both Adult and Pediatric Intensive Care, Radboud University Medical Center (1999 - Present)
- Chairman of the Section of Hemodynamics and Congenital Heart Disease of ESPNIC (2010 – Present)

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- Graduated as Pediatrician from Universitas Brawijaya, Malang Indonesia (2012)
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- Graduated as General Practitioner Medical Doctor from Universitas Brawijaya, Malang Indonesia (2006)

Latest Positions

- Medical Faculty of Universitas Brawijaya, Malang (2013-present)
- Full Time Faculty Member as Faculty (Lecture subject: Child Health)
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Educational Background

- MD; Faculty of Medicine, Universitas Indonesia (1986–1992)
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- Consultant of Neonatology; Indonesian College of Pediatrics, Jakarta, Indonesia (2011)
- Neonatal Training in Melbourne, Australia (2006-2008)

Latest Position

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- Konsultan Infeksi dan Pediatri Tropik, Fakultas Kedokteran Universitas Indonesia (2011)

Latest Position

- Ketua Divisi Infeksi dan Pediatri Tropik, Departemen Ilmu Kesehatan Anak, RSUPN Cipto Mangunkusumo – FK Universitas Indonesia Jakarta
- Ketua Satgas Farmasi Pediatri (2017-2020)

Full Name & Title

DR. Dr. Murti Andriastuti, Sp.A(K) (Jakarta)

Educational Background

- Medical Doctor, Fakultas Kedokteran Universitas Indonesia
- Pediatrician, Fakultas Kedokteran Universitas Indonesia
- Consultant Pediatric Hematology Oncology, Fakultas Kedokteran Universitas Indonesia
- Doctoral, Fakultas Kedokteran Universitas Indonesia
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Latest Positions

- Staf Hematology Oncology Division, Child Health Department, FKUI RSCM
  Head of Iron Deficiency Anemia Task Force, PP IDAI

Full Name & Title

Dr. Muhammad Azharry Rully, Sp.A

Educational Background

- Bachelor of Medicine, Faculty of Medicine, Universitas Indonesia (2008)
- MD, Faculty of Medicine, Universitas Indonesia (2010)
- Sp.A, Faculty of Medicine, Universitas Indonesia (2017)

Latest Position

- Medical Staff, Perinatology Division; Child Health Department– FKUI RSUPN Cipto Mangunkusumo, Jakarta (2019-present)
- Emergency Doctor at Hermina Women and Children Hospital, Ciputat (2012-2013)
- Pediatrician at Kota Baru District General Hospital, Kota Baru South Borneo (WKDS program) (2018-2019)

Full Name & Title

Dr. M. Supriatna T. S, Sp.A (K)

Educational Background

- Sp1 Pediatric Specialist Educational Program – Diponegoro University, Dr. Kariadi Hospital Semarang, (2000 – 2004)
- Sp2 Pediatric Emergency and Critical Care Consultant Universitas Indonesia – Dr. Cipto Mangunkusumo Hospital Jakarta (2010)
- Fellowship Pediatric Program on Critical Care Medicine, UMC Nijmegen Netherlands (2010)

Latest Positions

- Head of Intensive Care Instalation; Pediatric Emergency and Critical Care Division, Department of Pediatrics Dr. Kariadi Hospital, Faculty of Medicine Diponegoro University, Semarang

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Full Name & Title

Prof. Dr. H. Munar Lubis, Sp.A(K)

Educational Background

- Sarjana Kedokteran, FK USU (1975)
- Profesi Dokter, FK USU (1977)
- SpA, FK USU (1987)
- Consultant, Kolegium IDAI (2004)
- Guru Besar Ilmu Kesehatan Anak, Universitas Sumatera Utara (2010)

Latest Positions

- Staff Departemen Ilmu Kesehatan Anak, FK USU (1985-Now)
- Ketua Seksi Pendidikan S1, FK USU (2003-Now)
- Ketua Departemen Ilmu Kesehatan Anak, FK USU (2011-Now)

Full Name & Title

Dr. Nina Dwi Putri, Sp.A(K), M.Sc(TropPaed)

Educational Background

- Master of Tropical Pediatric, Liverpool School of Tropical Medicine, United Kingdom (2018/19)
- Executive Fellowship in Pediatric Infectious Disease, The Children Hospital at Westmead, Sydney (2018)
- Pediatric ID Consultant Training, Universitas Indonesia (2015-2017)
- Clinical Fellowship in Infectious Disease for Institute of Infectious Disease and Epidemiology, National Center of Infectious Disease, Tan Tock Seng Hospital, Singapore (2014)
- Pediatric Residency Training, Universitas Indonesia (2007 -2012)
- Medical Doctor, Universitas Indonesia (2000-2006)

Latest Position

- Lecturer in Pediatric Infectious Disease and Tropical Pediatrics Universitas Indonesia, 2013 – present
- Head of COVID-19 Ward of Cipto Mangunkusumo Hospital, 2020 – present
- Head of Pediatric Outpatient Parenteral Antibiotic Therapy Clinic, Cipto Mangunkusumo Hospital, 2015 - present
- Pediatric ID Consultant in Cipto Mangunkusumo National Referral Hospital
- Pediatric ID Consultant Universitas Indonesia Hospital

Full Name & Title

Dr. Neurinda Permata Kusumastuti, Sp.A(K)

Educational Background

- MD, Faculty of Medicine, Universitas Airlangga (2003)
- Pediatrician, Faculty of Medicine, Universitas Airlangga (2010)
- Fellowship of Pediatric Critical Care, Shizuoka Children's Hospital (2013)
- Consultant of Pediatric Emergency and Critical Care (ERIA), FKUI (2017)

Latest Positions

- Lecturer, Faculty of Medicine, Universitas Airlangga, Surabaya
- Medical staff, Child Health Department, RSUD Dr. Soetomo

Full Name & Title

Dr. Putri Maharani T.M.,Sp.A(K)

Educational Background

- Medical Bachelor Degree, Faculty of Medicine, Universitas Indonesia, Jakarta (2002-2006)
- Medical Doctor, Faculty of Medicine, Universitas Indonesia, Jakarta (2006-2008)
- Pediatrician, Faculty of Medicine, Universitas Indonesia, Jakarta (2010-2014)
- Subspecialty of Pediatrician (Neonatology), Faculty of Medicine, Universitas Indonesia, Jakarta (2016-2018)

Latest Position

- Junior Staff of Neonatology Division, Department of Child Health, Faculty of Medicine, Universitas Indonesia, Dr. Cipto Mangunkusumo Hospital, Jakarta (2014-now)
- Secretary of Neonatology Working Unit of Jakarta Indonesian Pediatric Society (2014-now)

Full Name & Title

Dr. R.AY. Siti Lintang Kawurjan Poespaningrat, Sp.A(K)

Educational Background

- dr, Fakultas Kedokteran Universitas Gadjah Mada (1974)
- Spesialisai (SPA), Fakultas Kedokteran Universitas Airlangga (1986)
- Konsultas Neonatologi (SpAK) Koligium IDAI (2005)

Latest Position

- Bagian Anak RS Islam Universitas Islam Malang (sekarang)
- Bagian Anak RSHermina Malang (sekarang)
- Staf IKA RS Saiful Anwar / FK Univeritas Brawijaya Malang (2018)
- Staf Neonatology RS Saiful Anwar/ FK Universitas Brawijaya Malang (2018)

Full Name & Title

Prof. DR. Dr. Rinawati Rohsiswatmo, Sp.A(K)

Educational Background

- MD; Faculty of Medicine Universitas Indonesia (1986-Present)
- Pediatrician; Faculty of Medicine Universitas Indonesia (1998-Present)
- Neonatal Intensive Care Unit, Royal Women's Hospital, Melbourne, Australia (1999-2001)
- Consultant Pediatrician; Faculty of Medicine University of Indonesia (2005)
- Doctor, Faculty of Medicine University of Indonesia (2011)
- Pediatric Total Nutrition Therapy, Singapore (April 2011)
- Developmental Origins of Health and Disease, USA (September 2011)
- Neonatal ventilation Strategies and HFOV 3100A Neonatal Application Training, Amsterdam (March 2012)
- Professor, Faculty of Medicine Universitas Indonesia (2021)

Latest Position

- Lecturer; Child Health Department, Faculty of Medicine Universitas Indonesia (2002-Present)
- Neonatologist; Child Health Department, Cipto Mangunkusumo National General Hospital (1999-Present)

Full Name & Title

DR. Dr. Risa Etika, Sp.A(K)

Educational Background

- Medical Doctor, Airlangga University (1987)
- Pediatrician, Airlangga University (1997)
- Consultant of Neonatology (2008)
- Doctoral, Airlangga University (2016)

Latest Position

- Chief of Neonatology Division Department of Child Health, Faculty of Medicine, Airlangga University/ Dr. Soetomo Hospital
- Comittee Member of Indonesian Pediatric Society, East Java Branch (2011 – 2014, 2014 – 2017, 2017 – 2020)
- Comittee Member of Neonatology Working Group, IPS (2014 – 2017)
- Indonesian Society of Perinatology (PERINASIA), East Java Branch

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Full Name & Title

DR. Dr. Risma Kerina Kaban, Sp.A(K)

Educational Background

- MD; Faculty of Medicine, North Sumatera University (1982-1989)
- Pediatrician; Faculty of Medicine University of Indonesia (1996-2001)
- Neonatal Training at NICU Royal Children Hospital and Royal Women's Hospital (2004-2005)
- Consultant Pediatrician; Faculty of Medicine University of Indonesia (2011)
- PhD; Faculty of Medicine Universitas Indonesia (2016)

Latest Position

- Chairman, Neonatology Working Group, IDAI DKI Jakarta (2015-Present)
- Academic Staff of Neonatology Division, Department of Child Health, Cipto Mangunkusumo Hospital, Jakarta, Indonesia (2002-Present)

Full Name & Title

DR. Dr. Ririe F. Malisie, Sp.A(K)

Educational Qualifications

- PhD of Medicine; Universitas Indonesia (2014)
- Consultant of Pediatric Critical Care ; Child Health Collegium and Indonesian Pediatric Society (2011)
- International Training & Workshop on Advanced Ventilator Strategies. Singapore (2013)
- International Clinical Training Mechanical Ventilator for Infant and Children. Singapore (2012)
- Clinical Training Mechanical Ventilation: HFO - NUS, Singapore (2010)
- Basic and Advanced Mechanical Ventilation Course, Jakarta (2008-2009)
- Training and Research in Cardiac ICU Integrated Cardiac Services Dr.Cipto Mangunkusumo Hospital, Jakarta (2007-2008)

Current Positions Held

- Chairman of The Emergency and Pediatric Intensive Care Working Group - Indonesian Pediatric Society (2017- present)
- Medical Staff, Faculty of Medicine - University of Sumatera Utara, Medan, Indonesia (2017-Present)

Full Name & Title

Dr. Rosalina Dewi Roeslani, Sp.A(K)

Educational Background

- MD; Faculty of Medicine, Padjajaran University (1993)
- Pediatrician; Faculty of Medicine Universitas Indonesia (2003)
- Consultant Pediatrician; Faculty of Medicine Universitas Indonesia (2014)

Latest Position

- Lecture Associate University of Indonesia, Department of Child Health, CiptoMangunkusumo Hospital, Jakarta, Indonesia (2006-present)
- Head of Neonatology Division, Department of Child Health, Cipto Mangunkusumo Hospital, Jakarta, Indonesia (2018-present)
- Treasurer of Indonesian Pediatric Society (2014-present)

Full Name & Title

Dr. Saptadi Yuliarto, Sp.A(K), M.Kes

Educational Background

- MD; Faculty of Medicine, Universitas Brawijaya, Malang (1998-2005)
- Pediatrician; FK Universitas Brawijaya, Malang (2006-2010)
- Master of Health; Department of Pediatric, Saiful Anwar General Hospital/Faculty of Medicine, Universitas Brawijaya Malang (2008-2010)
- Pediatric Consultant of Emergency and Intensive Care; Department of Pediatric, Cipto Mangunkusumo Hospital/Faculty of Medicine, Universitas Indonesia Jakarta (2012-2014)

Latest Position

- Head of Pediatric Emergency and Intensive Care Division, Department of Pediatric, Faculty of Medicine, Universitas Brawijaya, Saiful Anwar General Hospital, Malang
- Lecturer of Pediatric Residency Program, Department of Pediatric, Faculty of Medicine, Universitas Brawijaya, Saiful Anwar General Hospital, Malang
- Head of Pediatric Intensive Care Unit (PICU) Saiful Anwar General Hospital, Malang, Indonesia
- Head of Neonatal and Pediatric Intensive Care Unit, Persada Hospital, Malang

Full Name & Title

Dr. Setya Wandita, M.Kes., Sp.A(K)

Educational Background

- MD, Faculty of Medicine, Universitas Gadjah Mada (1986)
- Pediatrician, Faculty of Medicine, Universitas Gadjah Mada (1999)
- Master of Maternal-Perinatal Medicine, Faculty of Medicine, Universitas Gadjah Mada (2000)
- Neonatology Consultant (2006)

Latest Position

- Lecturer, Neonatology Division, Department of Child Health, Faculty of Medicine, Universitas Gadjah Mada. (1999-now)
- Neonatologist/Medical Staff, Maternal-Perinatal Unit, Sardjito General Hospital (1999-now)

Full Name & Title

Dr. Setyadewi Lusyati, Sp.A(K), PhD

Educational Background

- Doctor in Neonatology. Theses: Infection Biomarker, UMCG-Groningen, The Netherlands (2011)
- Consultant in Neonatology, Kolegium IDAI (2007)
- Neonatologist, UMCG Groningen, The Netherlands (2005)
- Pediatrician, UNPAD (1999)
- General Practitioner, UNAIR (1990)

Latest Position

- Pediatrician-Neonatology, Neonatology Working Group, Harapan Kita Women and Children Hospital (2002- present)
- General Pediatrician, Ende Hospital, Glores-NTT (2001-2002)
- General Practitionar, Puskesmas Liquisa, Liquisa-East Timor (1991-1993)

Full Name & Title

Dr. Sri Martuti, Sp.A(K), M.Kes

Educational Background

- MD, Faculty of Medicine, Diponegoro University - Semarang (1998)
- Pediatrician, Faculty of Medicine, Sebelas Maret University - Surakarta (2007)
- Magister of Health Program, Faculty of Medicine, Sebelas Maret University - Surakarta (2007)
- Pediatric Consultant, FKUI 2015

Latest Positions

- Pediatrician at RSUD Dr. Moewardi, Surakarta
- Lecturer Staff at FK UNS/RSUD Dr. Moewardi, Surakarta (2007 – Present)

Name & Title

Dr. Stanza Uga Peryoga, Sp.A(K), M.Kes

Educational Background

- MD, University of Padjajaran/Hasan Sadikin General Hospital (1994)
- Pediatrician, University of Padjajaran/Hasan Sadikin General Hospital (2004)
- Master of Health, University of Padjajaran/Hasan Sadikin General Hospital (2004)
- Consultan of Emergency and Pediatric Intensive Care, University of Padjajaran/Hasan Sadikin General Hospital (2017)

Latest Positions

- Staff of Child Health Department, Emergency and Pediatric Intensive Care Division; Faculty of Medicine University of Padjajaran/Hasan Sadikin General Hospital (2007- now)

Full Name & Title

DR. Dr. Toto Wisnu Hendrarto, Sp.A(K)

Educational Background

- Fellowship in Advance Vaccinology Course, Foundation Merieux, Feyrier-Du-Lac, France (2017)
- PhD program in Neonatology, Medical Faculty, University of Indonesia (2015)
- Consultant in Neonatology, Indonesian College of Pediatric (2010)
- Fellowship in Neonatology, Sophia Children Academic Hospital, University of Erasmus, Rotterdam, The Netherlands (1996)
- Pediatrician, Medical Faculty, Universitas Indonesia (1994)
- Diploma in Tropical Medicine and Hygiene, SEAMEO (1989)
- General Practitioner : Medical Faculty, Universitas Indonesia (1985)

Latest Positions

- Neonatology Staff, RSAB Harapan Kita Jakarta
- Chairman of Neonatology Working Group – IDAI (Present)
- Vice Chairman of National Committee of AEFI (Present)
- Member of MKEK Jakarta (Present)
- Member of ITAGI (Present)

Full Name & Title

Dr. Tartila, Sp.A

Educational Background

- Pediatric Intensivist Consultant training, Universitas Indonesia, 2020-now
- Fellowship in Pediatric Intensive Care, Emma Children Hospital-Amsterdam UMC, The Netherland 2019
- Pediatric Residency Training, Universitas Indonesia, 2011 -2015
- Medical Doctor, Universitas Indonesia, 2003-2009

Latest Positions

- Pediatric Case Manager for COVID-19 Board Cipto Mangunkusumo Hospital
- Secretary of Community Services Coordinator, Department of Child Health, Cipto Mangunkusumo Hospital
- Lecturer, Department of Child Health, Faculty of Medicine, Universitas Indonesia
- Medical staff, Pediatric Emergency and Critical Care Division, Department of Child Health, Cipto Mangunkusumo Hospital

Full Name & Title

Dr. Tunjung Wibowo, M.Kes., MPH, Sp.A(K)

Current Positions
Neonatology Division
Child Health Department
Faculty of Medicine – University of GadjahMada
RSUP Dr. Sardjito Yogyakarta

Full Name & Title

Dr. Wahyuni Indawati, Sp.A(K)

Current Positions
Child Health Department
Faculty of Medicine – University of Indonesia
Cipto Mangunkusumo General Hospital Jakarta

Full Name & Title

Dr. Yogi Prawira, Sp.A(K)

Education Background

- Pediatric Intensivist Consultant, CMH/FMUI, Jakarta (2017)
- Fellowship Trainee, Pediatric and Congenital ICU, Pediatric and Congenital Heart Center, National Heart Institute (IJN), Kuala Lumpur, Malaysia (2015)
- Pediatrician, Faculty of Medicine, University of Indonesia, Jakarta (2010)
- Doctor of Medicine, Faculty of Medicine, Diponegoro University, Semarang, Indonesia (2005)

Latest Positions

- Academic Staff and Clinical Lecturer at Pediatric Emergency and Critical Care Division, Child Health Department, Cipto Mangunkusumo Hospital / Faculty of Medicine Universitas Indonesia, Jakarta

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Full Name & Title

Dr. Yusrina Istanti, Sp.A(K), M.Si.Med

Educational Background

- Fellow on Pediatric Critical Care Medicine, FKUI, Jakarta
- Pediatrician, Faculty of Medicine, University of Diponegoro, Semarang (2009)
- Doctor of Medicine, Faculty of Medicine, Unissula University, Semarang, Indonesia (1998)

Latest Positions

- Pediatrician at Kariadi Hospital – Departement of Child Health Diponegoro University Semarang

SECRETARIAT EX-OFFICIO

INDONESIAN PICU NICU UPDATE

The Indonesian PICU NICU Update

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