AsianNeo survey

Background and Aim of the Survey

To reduce neonatal death in the world, it is incredibly important to improve clinical management of very preterm infants (gestational age: less than 32 weeks), especially extremely preterm infants (gestational age: less than 29 weeks). However, there is little data regarding neonatal health care system, clinical management and outcome for very preterm infants in many Asian countries. To tackle this issue, we launched the Asian Neonatal Network (AsianNEO) which currently consists of 9 countries and regions (Indonesia, Japan, Malaysia, Philippine, Shanghai (China), Singapore, South Korea, Taiwan, and Thailand) with the aims to improve the quality of clinical management for very preterm infants in Asia. By conducting this survey, we will pursue important information which will lead to improvement of clinical management for very preterm infants in developing countries.

Investigators

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AsianNeo Unit Survey

AsianNEO survey Part 1

A)基礎データ

1. 貴施設の NICU はどの国もしくは地域にありますか？

選択肢(インドネシア, 日本, 韓国, マレーシア, フィリピン, 上海（中国）シンガポール, 台湾, タイ)

2-1 もし可能であれば、あなたの病院名を記載してください。

2-2 あなたの NICU の 6 桁の施設番号を記載してください（あなたの国もしくは地域の AsianNeo の代表者から割り当てられているはずです）。

2-3 正確な施設 ID の確認のために、もう一度、あなたの NICU の 6 桁の施設番号を記載してください。

3 病院におけるあなたの職位（もっとも当てはまるもの）を選んでください。

選択肢（NICU 部長, 大学もしくは教育機関の新生児学の教授もしくは准教授,新生児科医,一般小児科医，NICU フェロー，小児科レジデント，その他：（詳細を記載してください）

4 貴施設の NICU は以下のいずれに該当しますか?

補足：NICU Level の説明:

- Level 3 NICU は重症な疾患のある在胎週数 32 週未満もしくは出生体重 1500g 未満の児のケアができる。もしくは IMV, HFO, NIPPV, CPAP などの呼吸管理を必要とする在胎週数 32 週未満もしくは出生体重 1500g 未満の児のケアができる。
- Level 2 NICU は未熟性や周産期の疾患による中等度のケア（人工呼吸器管理が必要であったとしても短時間（24 時間以内など））を行い、積極的な呼吸器管理を必要としない在胎週数 32 週以上もしくは出生体重 1500g 以上の児のケアができる。

選択肢

- Level 3 NICU（三次もしくは集中治療）
- Level 3 NICU（三次もしくは集中治療）と Level 2 NICU（ステップダウン または特別なケア）の複合 NICU
- Level 2 NICU（ステップダウンまたは特別なケア）
- その他 （記載してください）

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5 貴施設のNICUがLevel 3（もしくはLevel 3 とLevel 2 の混合ユニット）であるなら、人工呼吸器管理などのLevel 3 のケアを行えるNICU ベッドは最大いくつありますか？

※Level 3 ベッドがない場合は、Not applicable/Can't answer を選んでください
選択肢(< 5 ベッド, 5-9 ベッド, 10-14 ベッド, 15-19 ベッド, 20-24 ベッド, 25-29 ベッド, 30-39 ベッド, 40-49 ベッド, 50-59 ベッド, 60-69 ベッド, 70-79 ベッド, 80-89 ベッド, 90-99 ベッド, ≥100 ベッド, Not applicable/Can't answer)

6 Level 2 ケア（酸素投与や胃管など）を必要とする児のためのベッドはいくつありますか？（前の質問でカウントしたlevel3 ケアのための児のベッド数は除いて下さい）

※Level 3 ベッドがない場合は、Not applicable/Can't answer を選んでください
選択肢(< 5 ベッド, 5-9 ベッド, 10-14 ベッド, 15-19 ベッド, 20-24 ベッド, 25-29 ベッド, 30-39 ベッド, 40-49 ベッド, 50-59 ベッド, 60-69 ベッド, 70-79 ベッド, 80-89 ベッド, 90-99 ベッド, ≥100 ベッド, Not applicable/Can't answer)

7 貴施設のNICU の財源について該当するものはついて選んでください。（以下のうちもっと近いものを一つ選んでください）

- 主に国の財源（国立病院）
- 主に地方自治体の財源（県立/市立病院など）
- 主に私的な財源（私立病院）
- 公立（国立）と私的な財源の混合
- 公立（県立/市立）と私的な財源の混合
- 公立（国立と県立/市立）と私的な財源の混合
- その他（記載してください）

8 貴施設はNICU フェローシッププログラム（新生児科専門医のためのトレーニングプログラム）がありますか？

選択肢 （はい、いいえ、その他）

9 貴施設は医学部に付随する大学病院ですか？（大学付属病院の医師の多くは大学のスタッフでなければなければなりません。教授、准教授、講師、助教など）

選択肢 （はい、いいえ、その他）

10 貴施設のNICU にはLevel 3 のケアが必要な新生児が、年間おおよそ何名入院しますか？

選択肢 (<50, 50-99, 100-199, 200-299, 300-399, 400-499, 500-749, 750-999, 1000-1499, 1500-1999, 2000-2999, 3000-4999, > 5000, 不明, その他)

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11　貴施設の NICU には、極低出生体重児 (出生体重＜1500g、超低出生体重児含む)が年間おおよそ何名入院しますか？

選択肢 (なし, 1-10, 10-19, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80-89, 90-99, 100-149, 150-199, 200-249, 250-299, ≥300, 不明)

12　貴施設の NICU には、超低出生体重児 (出生体重＜1000g)が年間おおよそ何名入院しますか？

選択肢 (なし, 1-10, 10-19, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80-89, 90-99, 100-149, 150-199, ≥200, 不明)

13 貴施設の NICU に入院する新生児の在胎週数の推定方法で最も一般的な手法は以下のうちどれですか？

選択肢

- 最終月経のみ
- 妊娠 9-13 週の超音波検査のみもしくは妊娠 9-13 週の超音波検査と最終月経
- 妊娠 14-27 週の超音波検査のみもしくは妊娠 14-27 週の超音波検査と最終月経
- 妊娠 28 週以降の超音波検査と最終月経
- 母の身体所見のみ （例 子宮底長、婦人科内診および腹部診察など）
- 児の身体所見のみ （例 Ballard スコアなど）
- わからない/回答できない
- その他 (詳細を記載してください)

14　貴施設の NICU では以下のどのプログラムやガイドラインに基づいて蘇生を行っていますか？

- 米国小児科学会の新生児蘇生プログラム[NRP もしくは AAP]
- Helping-baby-breaths [HBB]
- WHO 蘇生ガイドライン
- 自国の新生児蘇生プログラム
- 地域（州や市など）の新生児蘇生プログラム
- 貴 NICU 独自の新生児蘇生プログラム
- 特定のプログラムはない
- その他 [自由記載してください]）

15　貴施設では以下の治療等を提供していますか？

選択肢 （はい、いいえ、回答できない）

- 新生児の心臓手術 (PDA クリッピングなど)
- 新生児の消化器外科手術 (開腹術など)
- ROP 治療（レーザー, 抗 VEGF 薬治療など）
- 脳外科手術 (水頭症に対するシャント手術)

16　貴施設では産科医療（新生児の出産）を取り扱っていますか？

選択肢　（はい、いいえ）

17　貴施設の NICU チームは他院でのハイリスクの新生児の出生に対して立ち会うことがありますか？

- はい（歩いていける範囲の病院でのハイリスク児の出産には立ち合いをし、救急車なしで自院に転送します。）
- はい（歩いて行ける以上の遠方の病院でのハイリスク児の出産に立ち合いをし、救急車で児を転送します。）
- いいえ

18　（質問 A16 で産科医療の取り扱いなし、質問 A17 で、新生児分娩立ち合いをおこなっていない、と答えた先生のみこの質問 A18 に来ます）質問 A16-17 の回答について確認してください。「貴施設では新生児の出産がなく、貴施設の新生児チームは他院の分娩に立ち会うことはない。」という回答で間違いなければ出産関連の質問（R1－R8）はすべてスキップします。

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R）　新生児搬送と蘇生

1　貴施設の NICU に入院した在胎週数 29 週未満の未熟児（もしくは出生体重＜1200g）のうち、他院やほかの場所（出産センター、自宅など）から転院した新生児はおおよその割合はどのくらいですか？

選択肢 （90-100%、50 – 89%、10-49%、1-9%、< 1%、わからない）

2　貴施設の産科全体（正常分娩を含む）で年間おおよそ何例の出産がありますか？

選択肢 (<500, 500-999, 1000-1499, 1500-1999, 2000-2999, 3000-4999, 5000-7499, 7500-10000, > 10000, 不明)

3　貴施設で日中に在胎 29 週未満の児（または出生体重＜1200g）の出産があるとき、どのくらいの頻度で以下の担当者は児の蘇生に立ち合いますか？

（主たる蘇生担当者だけでなくサポート担当者も含みます）

選択肢 (ほとんどいつも 90-100%、しばしば 50-90%、ときどき 10-49%、めったにない 1-9%、ほぼない 0%、わからない)

それぞれの担当者について頻度について答えてください

(1) Level3 NICU で 3 年以上フルタイムでの経験がある医師（新生児科医、一般小児科医など）
(2) Level3 NICU でフルタイムの経験が 3 年未満の医師（一般小児科医、NICU フェロー、小児科研修の NICU ローテーションなど）
(3) NICU 所属でない医師（一般小児科医、小児科以外の医師)
(4)　助産師もしくは看護師

4　貴施設で夜間に在胎 29 週未満の児（または出生体重＜1200g）の出産があるとき、どのくらいの頻度で以下の担当者は児の蘇生に立ち合いますか？

（主たる蘇生担当者だけでなくサポート担当者も含みます）

選択肢 (ほとんどいつも 90-100%、しばしば 50-90%、ときどき 10-49%、めったにない 1-9%、ほぼない 0%、わからない)

それぞれの担当者について頻度について答えてください

(1) Level3 NICU で 3 年以上フルタイムでの経験がある医師（新生児科医、一般小児科医など）
(2) Level3 NICU でフルタイムの経験が 3 年未満の医師（一般小児科医、NICU フェロー、小児科研修の NICU ローテーションなど）
(3) NICU 所属でない医師（一般小児科医、小児科以外の医師)
(4) 助産師もしくは看護師

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5　貴院での出生後の在胎 29 週未満の児（または出生体重＜1200g）の新生児蘇生において陽圧換気のための最も一般的なデバイスは以下のうちどれですか？（一つだけ選択）

選択肢（T ピース機械式器具、流量膨張式バッグ、PEEP バルブ付き自己膨張式バッグ、PEEP バルブなし自己膨張式バッグ、その他[自由記載してください]）

6　貴院での出生後の在胎 29 週未満の児（または出生体重＜1200g）の新生児蘇生においてバッグマスク換気のために利用できるデバイスは以下のうちどれですか？　当てはまるものすべてを選んでください。

選択肢（T ピース機械式器具、流量膨張式バッグ、PEEP バルブ付き自己膨張式バッグ、PEEP バルブなし自己膨張式バッグ、その他[自由記載してください]）

7　超早産児（在胎週数 29 週未満または出生体重＜1200g）の主蘇生者（蘇生においてマスクバッグなどで呼吸管理をする人）のうち、プログラムの種類に関係なく新生児蘇生プログラムのトレーニングまたは認定を受けている割合はどのくらいですか？

選択肢（90-100%、50 – 89%、10-49%、1-9%、< 1%、答えられない）

8　貴施設の NICU の分娩室や蘇生室で超早産児（在胎週数 29 週未満または出生体重＜1200g）の蘇生において、必要時に以下のデバイスは使用しますか？

それぞれのデバイスについて答えてください。
選択肢 (はい、いいえ、答えられない)

- 酸素と空気の混合器（ガスブレンダー）
- ガス加湿器
- 心電図モニター
- SpO2 モニター
- 呼気 CO2 検知器 （気管挿管チェックのため）
- ラジアントウォーマー
- プラスチックバッグもしくはプラスチックラップ（極低出生体重児の体温維持のため）
- 陰圧自動吸引機（バルブシリンジは除く）

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B) 医療資源、薬品など

1　貴 NICU で患児が以下の医療機器やデバイスを必要とするとき、どのくらいの頻度で使用していますか？ ***(この質問は児の在胎週数に関係なく答えてください)***

（選択肢；ほとんど [90-100%]、しばしば [50-89%]、ときどき [10-49%]、めったにない [1-9%]、 ない [0%]、わからない）

- インキュベーター（保育器）
- SpO_2 モニター
- 心電図モニター
- EtCO2 モニター
- 心エコー
- 経頭蓋内もしくは経腹部エコー

2　貴 NICU で患児（在胎週数 29 週未満または出生体重＜1200g）が以下の医療機器やデバイスを必要とするとき、どのくらいの頻度で使用していますか？

（選択肢；ほとんど [90-100%]、しばしば [50-89%]、ときどき [10-49%]、めったにない [1-9%]、 ない [0%]、わからない）

- 人工呼吸器
- HFO (高頻度換気)
- CPAP 装置
- ネーザルハイフロー
- ECMO

3　貴 NICU で患児（在胎週数 29 週未満または出生体重＜1200g）が以下の治療を必要とするとき、どのくらいの頻度で使用していますか？

（選択肢；ほとんど [90-100%]、しばしば [50-89%]、ときどき [10-49%]、めったにない [1-9%]、ない [0%]、答えられない）

- サーファクタント
- カフェイン
- アミノフィリンまたはテオフィリン
- 吸入一酸化窒素（NO）
- コルチコステロイド （例： ハイドロコルチゾン、プレドニゾロン、デキサメタゾンなど）

4　貴 NICU で患児（在胎週数 29 週未満または出生体重＜1200g）が以下の治療を必要とするとき、どのくらいの頻度で使用していますか？

（選択肢；ほとんど [90-100%]、しばしば [50-89%]、ときどき [10-49%]、めったにない [1-9%]、ない [0%]、答えられない）

- PICC（末梢挿入式中心静脈カテーテル）による点滴
- 完全静脈栄養
- プロバイオティクス

- ドナーミルク

5　貴 NICU で患児（在胎週数 29 週未満または出生体重＜1200g）が以下の治療を必要とするとき、どのくらいの頻度で使用していますか？

（選択肢；ほとんど [90-100%]、しばしば [50-89%]、ときどき [10-49%]、めったにない [1-9%]、ない [0%]、答えられない）

- デバイスを用いた低体温療法 （全身冷却もしくは選択的頭部冷却）
- デバイスを用いない低体温療法
- ECMO

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C) 呼吸管理

1. 出生後にCPAP を使用したが、出生後 48 時間以内に呼吸困難が持続している自発呼吸の未熟児（在胎週数 29 週未満または出生体重＜1200g）に対して最も一般的な介入は以下のうちどれですか？ 以下の 4 つのケースにおいて、選択肢から選んでください。

（この設問は重度の無呼吸、仮死、またはその他の理由により即時の気管内挿管を必要とする児、初期の CPAP で安定しない児は含みません。最も一般的な選択肢を選んでください）

選択肢 （CPAP/NIPPV, MV, INSURE, LISA/MIST, その他 [詳細を記入して下さい]）
・CPAP/NIPPV＝ 児の呼吸状態がさらに悪くならない限りサーファクタント投与なしで CPAP もしくは NIPPV
・MV＝気管内挿管、必要に応じてサーファクタント投与ししばらくの間（少なくとも 1 時間以上）人工換気
・INSURE＝ 気管内挿管後、サーファクタント投与し挿管後 1 時間以内に抜管
・LISA/MIST＝ CPAP (もしくは NIPPV)を行い、細いチューブやカテーテル（挿管チューブではない）を利用し、サーファクタント投与
・その他＝詳細を記入して下さい

- 在胎 23-25 週もしくは出生体重< 800g、
  CPAP での必要酸素濃度 30-39% で改善がないとき _____
- 在胎 23-25 週もしくは出生体重<800g
  CPAP での必要酸素濃度 40-49% で改善がないとき _____
- 在胎 26-28 週もしくは出生体重 800-1200g
  CPAP での必要酸素濃度 30-39% で改善がないとき _____
- 在胎 26-28 週もしくは出生体重 800-1200g
  CPAP での必要酸素濃度 40-49% で改善がないとき _____

2. 出生後 24 時間以内に気管内挿管と人工換気を要する在胎週数 29 週未満の児（もしくは出生体重＜1200g）に対して、最も一般的な初期換気モードは以下のうちどれですか？

- HFO（高頻度振動換気）もしくは HFJV（高頻度ジェット換気）
- 従圧式 SIPPV（同調式間欠的強制換気）
- 従量式 SIPPV（同調式間欠的強制換気）
- 非同期式 IPPV/IMV（間欠的強制換気）
- NAVA（神経調節換気）
- その他（詳細を記載してください）

AsianNeo Unit Survey

3. 在胎週数 29 週未満の児（もしくは出生体重<1200g）に対して実施している換気モードを以下のうちすべて選んでください。（当てはまるものすべてをえらんでください）

- HFO（高頻度振動換気）もしくは HFJV（高頻度ジェット換気）
- 従圧式 SIPPV（同調式間欠的強制換気）
- 従量式 SIPPV（同調式間欠的強制換気）
- 非同期式 IPPV/IMV（間欠的強制換気）
- NAVA（神経調節換気）
- その他（詳細を記載してください）

4. 在胎週数 29 週未満の児（もしくは出生体重＜1200g）に対して実施している非侵襲的な呼吸管理のモードを以下のうちすべて選んでください。（当てはまるものすべてをえらんでください）

- CPAP
- Biphasic CPAP もしくは Bilevel CPAP
- 高流量鼻カニュラ (HFNC：ハイフロー)
- 非同期式 NIPPV (non-invasive positive pressure ventilation)
- 同期式 NIPPV (non-invasive positive pressure ventilation)
- 非侵襲 HFO (high frequency oscillation)
- 非侵襲 NAVA (Neurally adjusted ventilatory assist)
- その他（詳細を記載してください）

5. 在胎週数 29 週未満の児（もしくは出生体重＜1200g）において、挿管前の状態で、CPAP を行っている場合、許容される CPAP の FiO_2 のレベルは以下のうちどれにあてはまりますか？（これが唯一の決定要因であると想定します）

(例：もし 30-39%を選択した場合、CPAP で $FiO_2$40%を要する時には、挿管するものと考えます)

選択肢 （<30%, 30 – 39%, 40 – 49%, 50 – 59%, 60 – 69%, 70 – 79%, 80 – 89%, 90- 99%, 100%, Max FiO2 の基準はない, わからない）

6. 29 週未満の児（もしくは出生体重＜1200g）において、挿管前の状態で、CPAP を行っている場合、許容される CPAP のレベルは以下のうちどれにあてはまりますか？（これが唯一の決定要因であると想定した場合）

(例：もし 7cmH2O を選択された場合、8cmH2O で CPAP を要する時には、挿管するものと考えます)

選択肢: Max CPAP （5cmH2O, 6 cmH2O, 7cm H2O, 8cm H2O, 9cmH2O, 10cmH2O, 11cmH2O, 12cmH2O,>12cmH2O, Max CPAP の基準はない,わからない）

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7. 人工換気を要する 26 週未満の児（もしくは出生体重<800g）、26-28 週の児（もしくは出生体重 800-1200g）において、それぞれどのくらいの頻度で鎮静薬や麻酔薬を使用しますか？

鎮静薬・麻酔薬にはモルヒネ、フェンタニル、フェノバルビタール、ミダゾラムなどが含まれます。
この質問には気管内挿管前の前投薬の使用は含みません。

選択肢 (ほぼ常に 90-100%, しばしば 50-89%, ときどき 10-49%, めったにない 1-9%, ない 0%, 答えられない)

8. 人工換気を要する 29 週未満の児（もしくは出生体重<1200g）においてどのくらいの頻度で以下の薬剤を使用しますか？

この質問には気管内挿管前の前投薬の使用は含みません。

選択肢 (ほぼ常に 90-100%, しばしば 50-89%, ときどき 10-49%, めったにない 1-9%, ない 0%, 答えられない)

- モルヒネ
- フェンタニル
- スフェンタニル
- フェノバルビタール
- ミダゾラム
- 筋弛緩薬（例　ロクロニウム、サクシニルコリンなど）

9. 在胎週数 29 週未満の児（もしくは出生体重<1200g）に対して以下の薬剤をどのくらいの頻度で使用しますか？

選択肢 (ほぼ常に 90-100%, しばしば 50-89%, ときどき 10-49%, めったにない 1-9%, ない 0%, 答えられない)

- カフェイン
- ビタミン A
- CLD 予防もしくは治療のためのステロイドの全身投与
- CLD 予防もしくは治療のための吸入ステロイドの投与

D)重症児における管理

このセクションは重症児の管理についての倫理的な意思決定に関する質問が含まれています。こういった決定は、患児の家族との話し合いに基づいてなされるものであり、選択肢を選ぶことは難しいと承知しておりますが、貴施設での一般的な印象やご経験のおおよその頻度をご回答いただければと思います。

1. 治療が児にとってこれ以上有益であると見なされなくなった時に、貴施設の NICU では重症児に対して以下のどの管理をどの程度の頻度で選択しますか？

（このような状態には、重度の両側脳室内出血、重度の低酸素性虚血性脳症、重度の肺疾患、重度の先天性異常が含まれますが、これらの状態に限定されません。これらに該当する状態は施設や医師、その他の複合的な要因で変化しえます。
この質問はあなたの地域や国で法的に受け入れられるものを選ぶのではなく、貴施設の NICU で実際の管理として行われているものを選択してください）

選択肢：ほぼ常に 90-100%、しばしば 50 – 89%、ときどき 10-49%、めったにない 1-9%、ない 0%、答えられない)

- 治療の中止：両親やほかの医療従事者との同意に基づいて、生命維持装置（人工呼吸器など）の使用を中止することにより治療の方針を転換する。
- 治療の中止はせず、差し控えを行う：生命維持装置（人工呼吸器など）の使用中止は行わないが、両親とその他の医療従事者との同意に基づいて、積極的な治療を追加しない（例えば、換気設定を上げない、新しい薬（循環作動薬、抗菌薬など）を使用しない、事故抜管しても再挿管しないなど）。
- 積極的な治療の継続：病状によらず、積極的な治療を継続する。乳児が死亡するまでずっと、治療の停止や差し控えは行わない。

2. 在胎週数 29 週未満（出生体重＜1200g）で出生した児が画像検査において以下の所見を示した時、延命治療の中止もしくは治療の差し控えをする割合はどれくらいですか？（患児には他の合併症はなく、血行動態は安定していると仮定する）

選択肢：（ほぼ常に 90-100%、しばしば 50 – 89%、ときどき 10-49%、めったにない 1-9%、ない 0%、答えられない)

- 両側脳室内出血 (Grade 3/4)
- 片側脳室内出血 (Grade 3/4)
- 重度の壊死性腸炎（手術や開腹術を要する）
- 修正 40 週において人工換気を要する慢性肺疾患
- 修正 40 週において 30%以上の酸素で CPAP を要する慢性肺疾患

3. 以下の在胎週数（22-28 週）の新生児の出産に立ち会う場合、どのくらいの頻度で積極的な蘇生を行いますか？（積極的な蘇生法を行わない場合、児の多くは出生直後に死亡する可能性がある状況を想定しています）。

選択肢（ほぼ常に 90-100%、しばしば 50 – 89%、ときどき 10-49%、めったにしない 1-9%、しない 0%、答えられない)

- 在胎週数 22 週
- 在胎週数 23 週
- 在胎週数 24 週
- 在胎週数 25 週
- 在胎週数 26 週
- 在胎週数 27 週
- 在胎週数 28 週

4. 以下の推定体重の新生児の出産に立ち会う場合、どのくらいの頻度で積極的な蘇生を行いますか？（積極的な蘇生法を行わない場合、児の多くは出生直後に死亡する可能性があります）

選択肢（ほぼ常に 90-100%、しばしば 50 – 89%、ときどき 10-49%、めったにしない 1-9%、しない 0%、答えられない)

- < 400g
- 400-499g
- 500-599g
- 600-799g
- 800-999g
- 1000-1249g
- 1250-1500g

5. 18 トリソミーのケアにおいて、以下の治療が生存に必要な場合、どの程度の頻度で実施していますか？（この質問は満期の児を主に対象としています）

選択肢（ほぼ常に 90-100%、しばしば 50 – 89%、ときどき 10-49%、めったにしない 1-9%、しない 0%、答えられない)

- 非侵襲的な呼吸管理（CPAP、ネーザルハイフローなど）
- 侵襲的な呼吸管理（気管内挿管と人工換気）
- 気管切開
- 心外修復（PA banding、PDA ligation、PDA clipping など）
- 心内修復（VSD repair など）
- 消化管の手術（食道再建、胃壁破裂の修復、小腸切除など）
- 胃瘻増設

AsianNEO Unit Survey Part1_Final

Request for the participation in the AsianNEO Survey

We are requesting this survey to the representatives of the perinatal facilities or neonatal intensive care units (NICUs). If needed, the representatives can ask other suitable persons in their NICUs to answer this survey on behalf of themselves.

Explanation of the survey

1. **To reduce neonatal death in the world, it is incredibly important to improve clinical management of very preterm infants (gestational age: less than 32 weeks), especially extremely preterm infants (gestational age: less than 29 weeks). However, there is little data regarding neonatal health care system, clinical management and outcome for very preterm infants in many Asian countries. To tackle this issue, we launched the Asian Neonatal Network (AsianNEO) which currently consists of 9 countries and regions with the aims to improve the quality of clinical management for very preterm infants in Asia. By conducting this survey, we will pursue important information which will lead to improvement of clinical management for very preterm infants in developing countries.**
2. **Participation is not mandatory; however, if you agree to participate in this survey, we will appreciate your participation to improve the quality of care of very preterm infants in Asian countries. When the survey results are published, the individual facility name will be anonymized and will not be identified.**
3. **There is no direct benefit to your cooperation in the survey and it will take about 20 minutes to fill out the questionnaire.**
4. **If you have any questions about the survey, please feel free to contact us. The contact information is as follow.**

Contact information
National Center for Child Health and Development (NCCHD),Tokyo, Japan
AsianNeo Bureau　Fuyu Miyake MD. MPH.
E-mail：　fmiyake1228@gmail.com

Principal Investigator
Tetsuya Isayama MD. MSc. PhD.
Head, Division of Neonatology, National Center for Child Health and Development (NCCHD), Tokyo, Japan

*

Agreement Form

To Chairman, National Center for Child Health and Development (NCCHD), Tokyo, Japan

I understood this project of the Asian Neonatal Network Collaboration (AsianNEO).

★After reading the Request for Survey, if you agree to the participation in the survey, please click on the button below.

- ○ I **agree** to the participation in the survey.
- ○ I **disagree** to the participation in the survey.

AsianNEO Unit Survey Part1_Final

Confirmation of your previous answer to end this survey

Please confirm your answer to the previous question.
You answered the previous question as "I disagree to the participation in the survey." If it is correct, please confirm it by checking the following option button.
Or, if you want to participate in the survey, please go back to the previous page by clicking the "PREV" button below.

- ○ I confirm that I do not want to participate in the survey and I want to quit here.

If possible, please write the reason why you do not want to participate in the survey as well as your hospital name below.

AsianNEO Unit Survey Part1_Final

Introduction

Thank you for participating in this AsianNeo survey.

This survey asks the medical system and resources of your hospital and NICU and general clinical practice mainly for very preterm infants born at < 29 weeks gestational age or birth weight < 1200g except for some questions that specifically ask about more mature infants including term infants.

If the clinical practice depends on physicians or varies physician-to-physician, please answer the clinical practice that you think the most common or typical in your NICUs.

This survey (Part 1) may take about 20 minutes to answer.

Every time you click the "OK" button after each question, your answers will be saved.
Therefore, even after you discontinue the survey and are disconnected from the survey web site for a while, you can re-start the survey from the point you previously stopped as long as you log-in using the same device (laptop, mobile, etc.) via the same internet (same IP address).

AsianNEO Unit Survey Part1_Final

A: Baseline data

*** A-1 Which country or region is your NICU located?**

- ○ Indonesia
- ○ Japan
- ○ Korea
- ○ Malaysia
- ○ Philippines
- ○ Shanghai (China)
- ○ Singapore
- ○ Taiwan
- ○ Thailand

A-2.1 Please provide your hospital name, if possible.

*** A-2.2 Please provide your NICU ID number (6 digits) assigned by your country's or region's representative of AsianNeo.**

*** A-2.3 To ensure the correct ID, please re-enter your NICU ID number (6 digits) assigned by your country's or region's representative of AsianNeo.**

A-3 Please select the option that best describe your job title in your hospital below.

- ○ Head, Chair, Director, or Chief of NICU
- ○ Professor or Associate Professor of Division of Neonatology (University or Academic Center)
- ○ Neonatologist (Consultant, Medical staff, assistant professor, etc.)
- ○ General Pediatrician
- ○ NICU fellow (Trainee of neonatology)
- ○ Pediatric resident (Trainee of pediatrics)
- ○ Other (please specify)

* A-4 How would you classify your NICU among the following?

Note about the NICU Levels:
Level 3 units can take care of infants born at < 32 weeks gestations or with birth weight < 1500g, those with critical illness, or those on advanced respiratory support (intermittent mandatory ventilation, HFO, NIPPV, or CPAP).
Level 2 units can take care of infants born at ≥32 weeks gestation or with birth weight ≥ 1500g without advanced respiratory support who need mild support for their immaturity or transitional illness (those on supplemental oxygen or gastric tubing). Level 2 units may take care of those on advanced respiratory support only for short period [e.g. <24 hours].

- ◡ Level 3 (Tertiary care or Intensive Care) unit only
- ◡ Level 3 (Tertiary care or Intensive Care) and Level 2 (Step down or special care) unit combined
- ◡ Level 2 unit (Step down or special care baby unit)
- ◡ Others (please comment)

* A-5 How many Level-3 NICU beds does your NICU have (e.g. for those on mechanical ventilation, CPAP)?

If your hospital have flexible beds that can be used for either level 3 or level 2 care, please answer the maximum number of beds that can be used for level 3 care at once.
If your hospital does not have Level 3 beds, please select the "Not applicable/ Can't answer" option.

- ◡ < 5beds
- ◡ 5-9 beds
- ◡ 10-14 beds
- ◡ 15-19 beds
- ◡ 20-24 beds
- ◡ 25-29 beds
- ◡ 30-39 beds
- ◡ 40-49 beds
- ◡ 50-59 beds
- ◡ 60-69 beds
- ◡ 70-79 beds
- ◡ 80-89 beds
- ◡ 90-99 beds
- ◡ ≥100 beds
- ◡ Not applicable/ Can't answer

Please comment, if needed.

*** A-6 How many Level-2 NICU beds does your NICU have (e.g. for those on supplemental oxygen or gastric tube)?**

Please exclude the flexible beds that can be used for either level 3 or level 2 care (you should include these flexible beds in the answer of the previous question).

If you do not have level 2 beds, please select "Not applicable/Can't answer" option.

- ◡ < 5 beds
- ◡ 5-9 beds
- ◡ 10-14 beds
- ◡ 15-19 beds
- ◡ 20-24 beds
- ◡ 25-29 beds
- ◡ 30-39 beds
- ◡ 40-49 beds
- ◡ 50-59 beds
- ◡ 60-69 beds
- ◡ 70-79 beds
- ◡ 80-89 beds
- ◡ 90-99 beds
- ◡ ≥100 beds
- ◡ Not applicable/ Can't answer

Please comment, if needed.

*** A-7 How would you classify your NICU among the following based on funding? (Please select the one closest to your hospital).**

- ◡ **Primarily national** funding (country funding)
- ◡ **Primarily provincial** or municipal funding (province or city funding)
- ◡ **Primarily private** funding
- ◡ **Mix of national** funding **and private** funding
- ◡ **Mix of provincial** or municipal funding **and private** funding
- ◡ **Mix of national** funding, **and provincial** or municipal funding, **and private** funding
- ◡ Other funding (please comment)

*** A-8 Does your NICU provide the NICU fellowship program (Training program to be a certified neonatologists)?**

- YES
- NO
- Other (please specify)

*** A-9 Is your hospital the academic hospital affiliated to medical university?**

Many of the doctors in academic hospitals should be staff of university (professors, associate professors, assistant professors, lecturers, etc.)

- YES
- NO
- Other (please specify)

*** A-10 Approximately, how many infants requiring level 3 care admitted to your NICU per year?**

- <50
- 50-99
- 100-199
- 200-299
- 300-399
- 400-499
- 500-749
- 750-999
- 1000-1499
- 1500-1999
- 2000-2999
- 3000-4999
- > 5000
- I do not know/ Can't answer
- Other (please specify)

*** A-11 Approximately, how many very low-birth-weight infants (birth weight < 1500g including those <1000g) are admitted to your NICU per year?**

- ◯ none
- ◯ 1-9
- ◯ 10-19
- ◯ 20-29
- ◯ 30-39
- ◯ 40-49
- ◯ 50-74
- ◯ 75-99
- ◯ 100-149
- ◯ 150-199
- ◯ 200-299
- ◯ ≥300
- ◯ I do not know/ Can't answer

*** A-12 Approximately, how many extremely low-birth-weight infants (birth weight ≤ 1000g) are admitted to your NICU per year?**

- ◯ none
- ◯ 1-9
- ◯ 10-19
- ◯ 20-29
- ◯ 30-39
- ◯ 40-49
- ◯ 50-74
- ◯ 75-99
- ◯ 100-149
- ◯ 150-199
- ◯ ≥200
- ◯ I do not know/ Can't answer

* A-13 Which of the following is the most common way to estimate the gestational age of newborn infants admitted to your NICU?

- Last menstrual period alone
- Ultrasound during the 1st trimester (9-13 weeks gestational age) with or without last menstrual period
- Ultrasound during the 2nd trimester (14-27 weeks gestational age) with or without last menstrual period
- Ultrasound during the 3rd trimester (≥28 weeks gestational age) with last menstrual period
- Physical examination of mothers alone (e.g. symphysis-fundus height, pelvic or abdominal examination, etc.)
- Physical examination of infants alone (e.g. Ballard score, etc.)
- I do not know/ Can't answer
- Other (please comment)

* A-14 What resuscitation program or guidelines does your NICU follow for the neonatal resuscitation?

- **NRP of American Academy of Pediatrics** (Neonatal resuscitation program)
- **Helping-baby-breaths** [HBB]
- **WHO** resuscitation guidelines
- **National guideline/program** for neonatal resuscitation of your own country
- **Regional guideline/program** for neonatal resuscitation of your own region (e.g. province, city, etc.)
- **Your NICU's own guideline/program** for neonatal resuscitation (unique to your NICU)
- No specific program
- Other (please specify)

* **A-15 Does your hospital provide the following service in your hospital?**

Please answer to all the items with YES, NO, or Can't answer.

	YES	NO	Can't answer (Please comment)
Cardiac surgery of neonates (PDA clipping, etc.)	○	○	○
Gastrointestinal surgery of neonates (laparotomy, etc.)	○	○	○
ROP treatment (laser, anti-VEGF injection, etc.)	○	○	○
Neurosurgery (shunt surgery for hydrocephaly, etc.)	○	○	○

Please comment, if needed.

* **A-16 Does your hospital have obstetric service (deliveries of newborns)?**

- ○ YES, our hospital has obstetric service (deliveries of newborns).
- ○ NO, our hospital does not have obstetric service (deliveries of newborns).

AsianNEO Unit Survey Part1_Final

Delivery attendance

* **A-17 Does your hospital team attend the deliveries of high-risk newborns in other hospitals from where you transferred the infants to your hospital?**

- ○ YES, our hospital team often attend the deliveries of high-risk infants in a hospital close to our hospital (walk distance) from where we transfer the infants to our hospital by walk without ambulance.
- ○ YES, our hospital team often attend the deliveries of high-risk infants in only hospitals (more than walk distance from our hospital) from where we transfer infants to our hospital with ambulance.
- ○ NO, our hospital team does not attend deliveries of high-risk infants generally.

AsianNEO Unit Survey Part1_Final

Confirmation

* **A-18 Please confirm your answers to the previous questions here.** You answered that your hospital does not have obstetric service and also your hospital team does not attend the deliveries of newborns.
If it is correct, please check the option below **"YES" that will make you skip all the questions related to the delivery management.**
Or, if it is not correct, please go back to the previous questions and change your answers there.

- ◯ **YES, I confirm my answers to the previous questions.**

AsianNEO Unit Survey Part1_Final

R: Delivery & Resuscitation

* **R-1 Among preterm infants at < 29 weeks gestational age (or birth weight < 1200g) admitted to your NICU, what is the approximate proportion of outborn infants who are transferred from other hospitals or other places (e.g birth centers, home)?**

- ◯ Most of them (90-100%)
- ◯ Many of them (50 – 89%)
- ◯ Some of them (10-49%)
- ◯ Few of them (1-9%)
- ◯ Very few of them (< 1%)
- ◯ I do not know/ Can't answer

R-2 How many deliveries does your hospital (obstetrics department) have per year approximately?
The number includes all the deliveries including normal ones.

- ◯ <500
- ◯ 500-999
- ◯ 1000-1499
- ◯ 1500-1999
- ◯ 2000-2999
- ◯ 3000-4999
- ◯ 5000-7499
- ◯ 7500-10000
- ◯ > 10000
- ◯ I do not know/ Can't answer

*** R-3 During daytime, how often the following personnel attend the resuscitation of infants born at < 29 weeks gestation (or birth weight < 1200g) in your hospitals?**

(The attendance at resuscitation includes not only those as a main resuscitator but also those as a support person for neonatal resuscitation).

	Routinely [90-100%]	Often [50-90%]	Sometimes [10-49%]	Rarely [1-9%]	Never [0%]	Not applicable/ Can't answer
Experienced NICU physicians who have ≥ 3 years' experience of full-time work in level-3-NICU (neonatologists, registerers/hospitalists, general pediatricians, etc.)	◡	◡	◡	◡	◡	◡
Less-experienced NICU physicians who have < 3 years' experience of full-time work in level-3-NICU (registerer/hospitalists, general pediatricians, NICU fellows, pediatric residents in NICU rotation, etc.)	◡	◡	◡	◡	◡	◡
Non-NICU physicians who do not belong to NICUs (e.g. general pediatricians, non-pediatric physicians).	◡	◡	◡	◡	◡	◡
Midwives or nurses	◡	◡	◡	◡	◡	◡

Please comment here, if needed.

*** R-4 During night-time, how often the following personnel attend the resuscitation of infants born at < 29 weeks gestation (or birth weight < 1200g) in your hospitals ?**
(The attendance at resuscitation includes not only those as a main resuscitator but also those as a support person for neonatal resuscitation).

	Routinely [90-100%]	Often [50-90%]	Sometimes [10-49%]	Rarely [1-9%]	Never [0%]	Not applicable/ Can't answer
Experienced NICU physicians who have ≥ 3 years' experience of full-time work in level-3-NICU(neonatologists, registerers/hospitalists, general pediatricians, etc.)	◡	◡	◡	◡	◡	◡
Less-experienced NICU physicians who have < 3 years' experience of full-time work in level-3-NICU (registerer/hospitalists, general pediatricians, NICU fellows, pediatric residents in NICU rotation, etc.)	◡	◡	◡	◡	◡	◡
Non-NICU physicians who do not belong to NICUs (e.g. general pediatricians, non-pediatric physicians).	◡	◡	◡	◡	◡	◡
Midwives or nurses	◡	◡	◡	◡	◡	◡

Please comment here, if needed.

*** R-5 What is the most common device for positive pressure ventilation used in neonatal resuscitation of very preterm infants born at < 29 weeks gestation (or birth weight < 1200g) just after birth in your hospital?**

- ◡ T-piece resuscitator
- ◡ Flow-inflating bag (anesthesia bag)
- ◡ Self-inflating bag with PEEP valve
- ◡ Self-inflating bag without PEEP valve
- ◡ Other (please specify)

*** R-6 Which of the following devices are available in your hospital for bag-mask ventilation in neonatal resuscitation of very preterm infants born at < 29 weeks gestation (or birth weight < 1200g) just after birth?**

Please select all that apply.

- [ ] T-piece resuscitator
- [ ] Flow-inflating bag (anesthesia bag)
- [ ] Self-inflating bag with PEEP valve
- [ ] Self-inflating bag without PEEP valve
- [ ] Other (please specify)

*** R-7 How much proportion of the main resuscitators* of very preterm infants (gestational age < 29 weeks or birth weight < 1200g) are trained or certified for neonatal resuscitation program regardless of the type of the program.**

*Main resuscitators are the persons who manage respiratory support in resuscitation such as bag-mask ventilation.

- ◡ Most of them [90-100%]
- ◡ Many of them [50 – 89%]
- ◡ Some of them [10-49%]
- ◡ Few of them [1-9%]
- ◡ Very few of them [< 1%]
- ◡ I do not know/ Can't answer

* **R-8 Does your NICU generally use the following device or equipment for neonatal resuscitation of very preterm infants born at < 29 weeks gestation (or birth weight < 1200g) in delivery or resuscitation rooms when needed?**

Please select YES or NO for each device or equipment.

	YES	NO	Can't answer
Blender of air and oxygen (mixed gas of air and oxygen)	○	○	○
Gas humidifier (to humidify the air or oxygen for respiratory support)	○	○	○
ECG monitor (Electrocardiogram)	○	○	○
SpO2 monitor (oxygen saturation monitor)	○	○	○
End-tidal CO2 detector (to check endotracheal intubation)	○	○	○
Radiant warmer (to warm newborn infants)	○	○	○
Plastic bag or **plastic wraps** (to keep body temperature of very preterm infants)	○	○	○
Mechanical suctioning equipment to generate negative pressure (Not a bulb syringe)	○	○	○

Please write comments, if needed.

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B: Device, Medication, etc.

*** B-1 When infants require the following device or resource in your NICU, how often can they use it?**
(This question is regardless of the infants' gestational age).

	Mostly [90-100%]	Often [50-89%]	Sometimes [10-49%]	Rarely [1-9%]	Never [0%]	Not applicable/ Can't answer
Incubator	○	○	○	○	○	○
SpO2 monitor (oxygen saturation monitor)	○	○	○	○	○	○
ECG monitor (Electrocardiogram)	○	○	○	○	○	○
EtCO2 monitor (End-tidal carbon dioxide monitor)	○	○	○	○	○	○
Echocardiography (Ultrasound to assess heart)	○	○	○	○	○	○
Ultrasound to assess brain or abdomen	○	○	○	○	○	○

*** B-2 When infants (< 29 weeks gestational age or birth weight < 1200g) require the following device or resource in your NICU, how often can they use it?**

	Mostly [90-100%]	Often [50-89%]	Sometimes [10-49%]	Rarely [1-9%]	Never [0%]	Not applicable/ Can't answer
Mechanical ventilation	○	○	○	○	○	○
HFO (high frequency oscitation)	○	○	○	○	○	○
CPAP device (continuous persistent positive pressure)	○	○	○	○	○	○
High flow nasal cannula	○	○	○	○	○	○
ECMO (extracorporeal membrane oxygenation)	○	○	○	○	○	○

* B-3 When infants (< 29 weeks gestational age or birth weight < 1200g) require the following medications or treatment in your NICU, how often can they receive them?

	Mostly [90-100%]	Often [50-89%]	Sometimes [10-49%]	Rarely [1-9%]	Never [0%]	Not applicable/ Can't answer
Surfactant	◡	◡	◡	◡	◡	◡
Caffeine	◡	◡	◡	◡	◡	◡
Aminophylline or Theophylline	◡	◡	◡	◡	◡	◡
Inhaled nitric oxide (iNO)	◡	◡	◡	◡	◡	◡
Corticosteroids (e.g. Hydrocortisone, Prednisolone, Dexamethason, etc.)	◡	◡	◡	◡	◡	◡

Please comment, if needed.

* B-4 When infants (< 29 weeks gestational age or birth weight < 1200g) require the following medications or treatment in your NICU, how often can they receive them?

	Mostly [90-100%]	Often [50-89%]	Sometimes [10-49%]	Rarely [1-9%]	Never [0%]	Not applicable/ Can't answer
Peripheral Inserted Central Catheter (PICC) infusion	◡	◡	◡	◡	◡	◡
Total parenteral nutrition (TPN)	◡	◡	◡	◡	◡	◡
Probiotics	◡	◡	◡	◡	◡	◡
Donor milk (other mother's milk)	◡	◡	◡	◡	◡	◡

Please comment, if needed.

* **B-5 When term infants require the following treatment in your NICU, how often can they receive them?**

	Mostly [90-100%]	Often [50-89%]	Sometimes [10-49%]	Rarely [1-9%]	Never [0%]	Not applicable/ Can't answer
Therapeutic hypothermia (with device) (whole body cooling or selective head cooling)						
Therapeutic hypothermia using ice packs (without cooling device)						
ECMO (extracorporeal membrane oxygenation)						

Please comment, if needed.

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C: Respiratory management

*** C-1 What is the most common respiratory strategy in your NICU for spontaneous breathing preterm infant at < 29 weeks gestational age (GA) or birth weight (BW) < 1200g who is on CPAP after birth but continues to have respiratory distress within 48 hours of birth in each case below?**

This question does not include infants who require immediate intubation for severe apneas, asphyxia, or other reasons, and cannot be settled on CPAP initially.

Answer options are below:

CPAP/ NIPPV = Keep on CPAP or NIPPV without giving surfactant unless the respiratory condition deteriorates further.

Mechanical ventilation (MV) = Intubate, give surfactant if needed, and put on mechanical ventilation for a while (at least > 1 hour)

INSURE= Intubate, give surfactant and extubate at least within 1 hour after intubation

LISA/MIST= Keep on CPAP (or NIPPV) and give surfactant via soft thin tubes or catheters but not usua

Others

	CPAP/NIPPV	Mechanical ventilation	INSURE	LISA/MIST	Others
23-25 weeks GA or < 800g BW with **30-39% oxygen** on CPAP	◡	◡	◡	◡	◡
23-25 weeks GA or < 800g BW with **40-49% oxygen** on CPAP	◡	◡	◡	◡	◡
26-28 weeks GA or 800-1200g BW with **30-39% oxygen** on CPAP	◡	◡	◡	◡	◡
26-28 weeks GA or 800-1200g BW with **40-49% oxygen** on CPAP	◡	◡	◡	◡	◡

Please comment, if needed.

*** C-2 What is the most common initial ventilation mode in your NICU for infants at <29 weeks gestational age (or birth weight < 1200g) who require intubation and mechanical ventilation in the first 24 hours of birth?**

- ◡ **HFO/HFJ** (High frequency oscillation or High frequency jet ventilation)
- ◡ **SIPPV, pressure controlled** (Synchronized intermittent positive pressure ventilation)
- ◡ **SIPPV, volume targeted** (Synchronized intermittent positive pressure ventilation)
- ◡ **Non-synchronized IPPV/IMV,** (Intermittent positive pressure /intermittent mandatory ventilation)
- ◡ **NAVA** (Neurally adjusted ventilatory assist)
- ◡ Other (please specify)

*** C-3 Please select all the ventilation modes that are used in your NICU for infants at <29 weeks gestational age (or birth weight < 1200g)?**

Please, select all that apply.

- ☐ **HFO/HFJ** (High frequency oscillation or High frequency jet ventilation)
- ☐ **SIPPV, pressure controlled** (Synchronized intermittent positive pressure ventilation)
- ☐ **SIPPV, volume targeted** (Synchronized intermittent positive pressure ventilation)
- ☐ **Non-synchronized IPPV/IMV,** (Intermittent positive pressure /intermittent mandatory ventilation)
- ☐ **NAVA** (Neurally adjusted ventilatory assist)
- ☐ Other (please specify)

*** C-4 Which of the following modes of noninvasive respiratory support are used in your NICU for infants at <29 weeks gestational age (or birth weight < 1200g)?**

Please, select all that apply.

- ☐ CPAP (Continuous positive airway pressure)
- ☐ Biphasic CPAP (or Bilevel CPAP)
- ☐ High flow nasal canula (HFNC)
- ☐ Nonsynchronized NIPPV (noninvasive positive pressure ventilation)
- ☐ Other (please specify)
- ☐ Synchronized NIPPV (non-invasive positive pressure ventilation)
- ☐ Noninvasive HFO (high frequency oscillation)
- ☐ Noninvasive NAVA (Neurally adjusted ventilatory assist)

*** C-5 For neonates <29 weeks gestational age (or birth weight < 1200g), what level of FiO2 do you generally allow infants on CPAP to reach before you intubate (assume that these are the only deciding factors)?**

(For example, if your answer is 30-39%, you would intubate the infants on CPAP with 40% oxygen).

- <30%
- 30 – 39%
- 40 – 49%
- 50 – 59%
- 60 – 69%
- 70 – 79%
- 80 – 89%
- 90- 99%
- 100%
- no protocol for Max FiO2
- I do not know/ Can't answer

Please comment, if needed.

*** C-6 For neonates <29 weeks gestational age (or birth weight < 1200g), what level of CPAP do you generally allow infants on CPAP to reach before you intubate them?**

(For example, if your answer is 7 cmH2O, you would intubate the infants on CPAP of 8 cmH2O).

- 5cmH2O
- 6 cmH2O
- 7cm H2O
- 8cm H2O
- 9cmH2O
- 10cmH2O
- 11cmH2O
- 12cmH2O
- >12cmH2O
- no protocol for Max CPAP
- I do not know/ Can't answer

Please comment, if needed.

*** C-7 How often does your NICU team use sedation or analgesia for infants on mechanical ventilation born at < 26 weeks gestational age (GA) (or BW < 800g) and 26-28 weeks GA (or BW = 800-1200g), respectively?**

The sedation or analgesia includes morphine, fentanyl, phenobarbital, midazolam, etc.
This question does not include the use of agents as a premedication for intubation.

	Routinely [90-100%]	Often [50-89%]	Sometimes [10-49%]	Rarely [1-9%]	Never [0%]	Can't answer (please comment)
Sedation or analgesia for < 26 weeks GA (or BW < 800g)	◡	◡	◡	◡	◡	◡
Sedation or analgesia for 26-28 weeks GA (or BW 800-1200g)	◡	◡	◡	◡	◡	◡

Please comment, if needed.

C-8 How often does your NICU team use the following medications for sedating infants on mechanical ventilation at < 29 weeks gestational age (or birth weight < 1200g).

This question does not include the use of agents as a premedication for intubation.

	Routinely [90-100%]	Often [50-89%]	Sometimes [10-49%]	Rarely [1-9%]	Never [0%]	Can't answer (please comment)
Morphine	◡	◡	◡	◡	◡	◡
Fentanyl	◡	◡	◡	◡	◡	◡
Sufentanil	◡	◡	◡	◡	◡	◡
Phenobarbital	◡	◡	◡	◡	◡	◡
Midazolam	◡	◡	◡	◡	◡	◡
Muscle relaxant (e.g. rocuronium, succinylcholine, etc.)	◡	◡	◡	◡	◡	◡

Comment, if needed.

*** C-9 How often does your NICU team give the following medications to infants at <29 weeks gestational age (or birth weight < 1200g)?**

	Routinely [90-100%]	Often [50-89%]	Sometimes [10-49%]	Rarely [1-9%]	Never [0%]	Can't answer (please comment)
Caffeine	○	○	○	○	○	○
Vitamin A	○	○	○	○	○	○
Systemic corticosteroid for prevention or treatment of bronchopulmonary dysplasia	○	○	○	○	○	○
Inhaled corticosteroid for prevention or treatment of bronchopulmonary dysplasia	○	○	○	○	○	○

Comment, if needed.

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D: Management of sick newborns

In this page, we asked several questions regarding the ethical decision making in the management of very sick newborns. Answering these questions may be difficult because the decision depends on the condition of the infants and discussion with the infnats' families. Therefore, we do not need accurate answers here. Please answer your general impression on the frequency of these decision making for the following cases.

*** D-1 How often do you chose each of the following management of very sick infants* in your NICU when <u>treatment is no longer considered beneficial</u> to the baby.**

*: Such conditions may include but be not limited to severe bilateral intraventricular hemorrhage, severe hypoxic ischemic encephalopathy, severe lung disease, severe congenital anomalies, etc. These eligible conditions may vary depending on institutions, physicians, and other various factors.
This question is not about what is legally acceptable in your region or country but rather about what is your actual management in your unit.

Answer options are below:

- Withdrawal of life sustaining treatment: We may redirect care by discontinuing life supportive treatment (mechanical ventilation, etc.) based on consensus with parents and other health care providers.
- Withholding life sustaining treatment without withdrawal: We cannot discontinue life supportive treatment (mechanical ventilation, etc.). However, we may withhold treatment by deciding not to add active treatment (e.g. not increasing the ventilation setting, not adding new medications [inotropes, antibiotics, etc.], not reintubating when infants are extubated accidentally, etc.) based on consensus with parents and other health care providers. Continuation of active treatment (no withdrawal and no withholding treatment):
- Continuation of active treatment: We will continue active treatment irrespective of sickness. We cannot withdraw life supportive treatment nor withhold active treatment until infant passes away on full support.

	Routinely [90-100%]	Often [50-89%]	Sometimes [10-49%]	Rarely [1-9%]	Never [0%]	Can't answer (Please comment)
Withdrawal of life sustaining treatment	◡	◡	◡	◡	◡	◡
Withholding life sustaining treatment without withdrawal	◡	◡	◡	◡	◡	◡
Continuation of active treatment	◡	◡	◡	◡	◡	◡

Comment, if needed.

*** D-2 If the infants born at < 29 weeks gestation (or birth weight < 1200g) have the following severe conditions, what proportion of them are offered withdrawal or withholding of life sustaining treatment to die (assuming patient has no other complications)?**

	Routinely [90-100%]	Often [50 – 89%]	Sometimes [10-49%]	Rarely [1-9%]	Never [0%]	Can't answer (please comment)
Bilateral Grade 3 or 4 IVH (intraventricular hemorrhage)	◡	◡	◡	◡	◡	◡
Unilateral Grade 3 or 4 IVH (intraventricular hemorrhage)	◡	◡	◡	◡	◡	◡
Severe NEC (Necrotizing enterocolitis) requiring laparotomy or surgery	◡	◡	◡	◡	◡	◡
Severe BPD on mechanical ventilation at 40 weeks corrected gestational age (bronchopulmonary dysplasia)	◡	◡	◡	◡	◡	◡
Severe BPD on CPAP with > 30% oxygen at 40 weeks corrected gestational age (bronchopulmonary dysplasia)	◡	◡	◡	◡	◡	◡

Comment, if needed.

*** D-3 Among infants at the following gestational age (22-28 weeks), how often do they receive active resuscitation (active treatment)* after birth in your hospital?**

*: If you do not provide active resuscitation (respiratory support, intubation, etc.), many of the infants die soon after birth.

	Routinely [90-100%]	Often [50 – 89%]	Sometimes [10-49%]	Rarely [1-9%]	Never [0%]	Can't answer (please comment)
22 weeks gestational age	◡	◡	◡	◡	◡	◡
23 weeks gestational age	◡	◡	◡	◡	◡	◡
24 weeks gestational age	◡	◡	◡	◡	◡	◡
25 weeks gestational age	◡	◡	◡	◡	◡	◡
26 weeks gestational age	◡	◡	◡	◡	◡	◡
27 weeks gestational age	◡	◡	◡	◡	◡	◡
28 weeks gestational age	◡	◡	◡	◡	◡	◡

Comment, if needed.

*** D-4 Among infants at the following estimated fetal weight or birth weight, how often do they receive active resuscitation (active treatment)* after birth in your hospital?**

*: If you do not provide active resuscitation (respiratory support, intubation, etc.), many of the infants die soon after birth.

	Routinely [90-100%]	Often [50 – 89%]	Sometimes [10-49%]	Rarely [1-9%]	Never [0%]	Can't answer (please comment)
< 400g	◡	◡	◡	◡	◡	◡
400-499g	◡	◡	◡	◡	◡	◡
500-599g	◡	◡	◡	◡	◡	◡
600-799g	◡	◡	◡	◡	◡	◡
800-999g	◡	◡	◡	◡	◡	◡
1000-1249g	◡	◡	◡	◡	◡	◡
1250-1500g	◡	◡	◡	◡	◡	◡

Comment, if needed.

D-5 How often do you provide the following care for trisomy 18 infants if it is needed for the infants to survive? (This question is mainly for term infants).

Please answer the frequency or proportion among those who require each of the treatment to survive.

	Routinely [90-100%]	Often [50-89%]	Sometimes [10-49%]	Rarely [1-9%]	Never [0%]	Can't answer (please comment)
Non-invasive respiratory support (CPAP, high flow nasal canula, etc.)	○	○	○	○	○	○
Invasive respiratory support (intubation and mechanical ventilation)	○	○	○	○	○	○
Tracheostomy	○	○	○	○	○	○
Extra-cardiac cardiovascular surgeries (e.g. pulmonary artery banding, PDA ligation or clipping)	○	○	○	○	○	○
Intra-cardiac cardiovascular surgeries (e.g. VSD repair)	○	○	○	○	○	○
Gastrointestinal surgery (e.g. esophageal reconstruction, gastroschisis repair, small intestine resection)	○	○	○	○	○	○
Gastrostomy placement	○	○	○	○	○	○

Please comment, if needed.

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End of the survey

This is the end of the survey.

Thank you for completing the survey.

If you have any comments to the AsianNeo steering committee, please write in the comment box below.

* **Have you completed the survey?** If so, please check "YES, I completed this survey." below.

☐ YES, I completed this survey.