



2009 NCC Content Validation/Task Analysis Study

Neonatal Nurse Practitioner Examination

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1. Background and Overview

The purpose of the content validation/task analysis study is to describe the domain of practice, knowledge, skills and abilities that are essential to the Neonatal Nurse Practitioner.

The application of the data collected is used to identify test content to be included in the NCC certification examination to insure the examinations are reflective of current practice, skills and knowledge.

The focus of the NCC certification nurse practitioner examinations is to demonstrate the entry level knowledge of the neonatal nurse practitioner.

NCC content team members, a geographically diverse group representing both academic and clinical practice venues, were charged with development of the tasks as associated with existent test outlines.

2. Development process

With psychometric consultation, the tasks/skills/interventions identified by the content team were formulated into a survey instrument. The domains for query centered on the following:

- Demographics and Practice Characteristics of Certified NNPs
 - Frequency and Criticality of Patient Care
 - Skills
- a. The following documents were reviewed:
- National Task Force on Quality Nurse Practitioner Education for Evaluation of Nurse Practitioner Education
 - Neonatal Nurse Practitioners; Standards of Education & Practice, National Association of Neonatal Nurses (NANN)
 - Scope and Standards of Advanced Practice Registered Nurses, American Nurses' Association (ANA)
 - Standards for Professional Nursing Practice in the Care of Women and Newborns AWHONN
 - Neonatal Nursing: Clinical Competencies and Education Guide, AWHONN
 - Pertinent literature review
- b. Review of current NCC competency statements and general and detailed test outlines for the Neonatal Nurse Practitioner examination.
- c. Identification of Essential Knowledge, Skills and Abilities

The NNP Content Team based on the document review identified competencies and practice skills of the neonatal nurse practitioner. General discussion on how current competency statements and content included in the test outline related to the professional literature was also initiated. The content team then prioritized the list of tasks/skills.

3. Data Collection

The Zoomerang software was used for survey deployment and aggregate data compilation from survey responses. All NCC certified Neonatal Nurse Practitioners who held a valid email address, (4,159) were notified via email contact and a general invitation to participate was posted on the NCC website. 582 participated or 14%.

Detailed summary results are shown later in this report.



2009 Neonatal Nurse Practitioner Content Validation/Task Analysis Study Survey Map

Instructions to Participants

We need your input to insure that the NCC Neonatal Nurse Practitioner examination is reflective of current NNP practice. This survey relates to the type of patients you deal with, disposition of care and the nature and frequency of the conditions you manage. The data from this survey will assist the NCC Neonatal Nurse Practitioner Content Team to make revisions to the content outline from which questions are derived for assessment of entry level knowledge as a Neonatal Nurse Practitioner on the NCC certification examination. It should take 20 minutes to complete the survey.

The questions on the survey are categorized according to the identified domains above (page 3). The following lists only the questions. To review the answer options, refer to Survey Results.

Demographics and Practice Characteristics of Certified NNPs

- What best describes your practice setting?
- What is your place of employment?
- What is your job title?
- What is your highest level of education?
- How many hours do you work a week as an NNP?
- How long have you been an NCC certified NNP?
- Where do you live?
- Is NCC certification required for your employment as an NNP?
- How would you best describe the focus of your position - direct patient, administrative, education or other?
- For each of the general test content categories, an assigned percentage of questions on the NNP exam is noted. Based on your practice and experience, do these percentages appropriately represent the knowledge needed for NNPs to function in the current health care environment. If no, please indicate if you would increase, decrease or keep the percentage of questions the same for each major content area of the test.

Frequency and Criticality of Patient Care

- In reviewing the following practice knowledge competencies regarding **general assessment and family integration**, please indicate their criticality to NNP practice with #1 being the most important and #5 not being important at all. Criticality means it is an expected competency that an NNP should possess no matter the educational background, practice setting, patient population focus or years of experience.

- In reviewing the following practice knowledge competencies regarding **general management of neonates**, please indicate their criticality to NNP practice with #1 being the most important and #5 not being important at all. Criticality means it is an expected competency that an NNP should possess no matter the educational background, practice setting, patient population focus or years of experience.
- In reviewing the following practice knowledge competencies regarding **disease management**, please indicate their criticality to NNP practice with #1 being the most important and #5 not being important at all. Criticality means it is an expected competency that an NNP should possess no matter the educational background, practice setting, patient population focus or years of experience
- In reviewing the following practice knowledge competencies regarding **professional practice issues**, please indicate their criticality to NNP practice with #1 being the most important and #5 not being important at all. Criticality means it is an expected competency that an NNP should possess no matter the educational background, practice setting, patient population focus or years of experience
- Of the drug categories listed, please indicate the time frequency on average in which you **prescribe, order or use such categories of drugs in management of neonates** with #1 being every day and #5 being rarely or never.
- Please indicate the time frequency on average you manage neonates with the **respiratory or cardiac conditions** noted with #1 being every day and #5 being rarely or never.
- Please indicate the time frequency on average you manage neonates with the **musculoskeletal or skin conditions** noted with #1 being every day and #5 being rarely or never.
- Please indicate the time frequency on average you manage neonates with **the gastrointestinal, renal or genitourinary conditions** noted with #1 being every day and #5 being rarely or never.
- Please indicate the time frequency on average you manage neonates with the **endocrine/metabolic or hematopoietic conditions** noted with #1 being every day and #5 being rarely or never.
- Please indicate the time frequency on average you manage neonates with the **infectious diseases or neurological conditions** noted with #1 being every day and #5 being rarely or never.
- Please indicate the time frequency on average you manage neonates with **the genetic disorders, conditions affecting the eyes, ears, nose and throat** and complications relate to the **drug exposure in utero** as noted with #1 being every day and #5 being rarely or never.
- Please indicate the time frequency on average you order, perform, interpret or use the noted **laboratory tests, diagnostic studies or equipment** with #1 being every day and #5 being rarely or never.

Skills

Of the **skills or assessments** noted how often do you perform with #1 being every day and #5 being rarely or never.

Questions of Interest

- What type of ventilators do you use?
- What mode of ventilation do you use?
- How do you keep up with the new practice information (Check all that apply)
- List the content topic of the last continuing education activity you participated in
- In the last year, please describe any new procedure, drug or information that you have incorporated into your practice?

210 responses and the top 10 responses were

Body cooling (induced hypothermia) for HIE • Bubble CPAP • Golden hour rule for resuscitation • Ibuprofen for PDA closure • Neopuff • Neoprofen • Pigtail chest tube insertion • Vitamin A for BPD • Probiotic use • Universal TPN tests

2009 NNP Exam Content Validation Task Analysis Study Survey Results

1. What best describes your practice setting?

NICU - Level 1	6	1%
NICU - Level 2	51	9%
NICU - Level 3	450	77%
Academic Setting	53	9%
Other, please specify	22	4%
Total	582	100%

2. Are you employed by a

Hospital	446	77%
Government agency	14	2%
Private company	83	14%
Other, please specify	38	7%
Total	581	100%

3. What is your job title? (Choose the best response).

Nurse Practitioner	527	91%
Nurse Manager	5	1%
Director	4	1%
Vice President	0	0%
Educator	10	2%
Outreach Coordinator	3	1%
Transport NP	6	1%
Other, please specify	25	4%
Total	580	100%

4. What is your highest level of education?		
Doctorate – PhD	11	2%
Doctorate – DNP	10	2%
Post Master's	61	11%
Master's	380	66%
Baccalaureate	21	4%
NNP certificate prepared	82	14%
Associate	1	0%
Diploma	2	0%
Other, please specify	11	2%
Total	579	100%

5. How many hours do you work a week as an NNP? Work is defined as clinical practice, education, research or administration.		
35 hours or more	438	75%
20-34 hours	79	14%
Less than 20 hours	28	5%
Not working as an NNP right now	32	6%
Retired	4	1%
Total	581	100%

6. How long have you been an NCC certified NNP?		
Less than a year	43	7%
1-5 years	125	21%
6-10 years	85	15%
11-15 years	130	22%
16-20 years	104	18%
Over 20 years	95	16%
Total	582	100%

7. Where to do you live (applies to the U.S unless otherwise noted)?		
North	44	8%
South	206	35%
East	88	15%
West	92	16%
Midwest	137	24%
Outside the U.S.	15	3%
Total	582	100%

8. Is NCC NNP certification required for your employment as an NNP?		
Yes	523	90%
No	33	6%
Not working as an NNP	25	4%
Total	581	100%

9. How would you best describe the focus of your position? (Select the one that is most representative of your position).		
Direct patient care	517	89%
Administrative or Managerial	23	4%
Education	20	3%
Research	3	1%
Other, please specify	17	3%
Total	580	100%

10. For each of the general test content categories below, an assigned percentage range of questions on the NCC NNP exam is noted. Based on your practice and experience, do these percentages appropriately represent the knowledge needed for NNPs to function in the current health care environment? A link to the general outline providing more content detail is provided.

General Assessment 15-20%
 General Management 20-30%
 The Disease Process 45-55%
 Professional Issues < 5%

Yes	515	90%
No	60	10%
Total	575	100%

11. If you answered no, to the previous question about content outline, please indicate if you would increase, decrease or keep the percentage of questions in each major content area on the exam. If you answered yes, go to the next question.

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Increase	Decrease	Keep the same
General Assessment (15-20%)	36 34%	4 4%	67 63%
General Management (20-30%)	45 42%	12 11%	49 46%
The Disease Process (45-55%)	6 6%	43 41%	57 54%
Professional Issues (Less than 5%)	21 22%	7 7%	69 71%

12. In reviewing the following practice knowledge competencies regarding general assessment and family integration, please indicate their criticality to NNP practice with #1 being the most important and #5 not being important at all. Criticality means it is an expected competency that an NNP should possess no matter the educational background, practice setting, patient population focus or years of experience.

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Very Important	Important	Neutral	Some importance	No importance
Perinatal factors (antepartum or intrapartum affecting the newborn)	324 56%	222 38%	18 3%	11 2%	4 1%
Physical examination	537 92%	33 6%	0 0%	2 0%	9 2%
Gestational age determination	229 40%	278 48%	42 7%	25 4%	4 1%
Behavioral assessment	122 21%	322 56%	96 17%	34 6%	3 1%
Clinical laboratory test evaluation	423 73%	136 24%	9 2%	6 1%	4 1%
Diagnostic procedures	341 59%	205 35%	21 4%	7 1%	4 1%
Procedural techniques	364 63%	175 30%	28 5%	6 1%	3 1%
Knowledge of equipment	111 19%	314 54%	127 22%	24 4%	2 0%
Factors affecting family integration	116 20%	322 56%	103 18%	32 6%	2 0%
Knowledge of the grieving process	128 22%	313 54%	99 17%	37 6%	1 0%
Discharge planning and follow up	197 34%	302 52%	50 9%	26 5%	2 0%

13. In reviewing the following practice knowledge competencies regarding general management of neonates, please indicate their criticality to NNP practice with #1 being the most important and #5 not being important at all. Criticality means it is an expected competency that an NNP should possess no matter the educational background, practice setting, patient population focus or years of experience.

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Very Important	Important	Neutral	Some Importance	No Importance
Thermoregulation management	398 69%	159 27%	13 2%	4 1%	5 1%
Resuscitation and stabilization	555 96%	17 3%	1 0%	1 0%	6 1%
Nutrition management	456 79%	112 19%	2 0%	2 0%	6 1%
Fluid and electrolyte management	524 90%	45 8%	3 1%	2 0%	6 1%
Pharmacokinetics	289 50%	245 42%	28 5%	10 2%	7 1%
Neonatal drug therapy management	409 71%	151 26%	12 2%	2 0%	5 1%

14. In reviewing the following practice knowledge competencies regarding disease management, please indicate their criticality to NNP practice with #1 being the most important and #5 not being important at all. Criticality means it is an expected competency that an NNP should possess no matter the educational background, practice setting, patient population focus or years of experience.

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Very Important	Important	Neutral	Some Importance	No importance
Cardiac	392 68%	178 31%	5 1%	2 0%	2 0%
Respiratory	549 95%	26 4%	0 0%	1 0%	3 1%
Gastrointestinal	442 76%	130 22%	2 0%	3 1%	1 0%
Renal/genitourinary	301 52%	256 44%	14 2%	5 1%	1 0%
Metabolic/endocrine	235 41%	308 53%	26 5%	7 1%	1 0%
Hematopoietic	275 47%	281 49%	18 3%	2 0%	3 1%
Infectious diseases	473 82%	94 16%	5 1%	0 0%	4 1%
Musculoskeletal	159 28%	341 59%	67 12%	10 2%	1 0%
Integumentary	214 37%	290 50%	63 11%	9 2%	2 0%
Genetics	143 25%	330 57%	80 14%	20 3%	1 0%
Neurological	345 60%	207 36%	15 3%	3 1%	2 0%
Ears, eyes, nose and throat	168 29%	314 54%	77 13%	19 3%	2 0%
Intrauterine drug exposure	207 36%	302 52%	51 9%	19 3%	1 0%

15. In reviewing the following practice knowledge competencies regarding professional practice issues, please indicate their criticality to NNP practice with #1 being the most important and #5 not being important at all. Criticality means it is an expected competency that a NNP should possess no matter the educational background, practice setting, patient population focus or years of experience.

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Very Important	Important	Neutral	Some importance	No importance
Research	72 12%	335 58%	117 20%	55 9%	2 0%
Legal Issues	128 22%	331 57%	89 15%	31 5%	2 0%
Ethical Issues	245 42%	278 48%	41 7%	13 2%	2 0%
Patient Safety	401 69%	153 26%	13 2%	9 2%	4 1%

16. Of the drug categories listed, please indicate the time frequency on average in which you prescribe, order or use such categories of drugs in management of neonates with #1 being every day and #5 being rarely or never

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Every day	Every week	Every month	Within the last year	Rarely /never
Antimicrobials	384 67%	162 28%	14 2%	5 1%	4 1%
Antihypertensive drugs	20 4%	81 14%	156 27%	222 39%	91 16%
Diuretics	108 19%	244 43%	137 24%	61 11%	21 4%
Anticonvulsants	26 5%	80 14%	252 44%	197 35%	16 3%
Respiratory stimulants	269 47%	216 38%	54 9%	22 4%	8 1%
Vasodilators/vasopressors	70 12%	220 39%	173 30%	83 15%	22 4%
Anti-dysrhythmia drugs	12 2%	37 7%	143 25%	278 49%	99 17%
Steroids	29 5%	101 18%	204 36%	170 30%	62 11%
Surfactant therapy	168 30%	299 53%	76 13%	14 2%	11 2%
Biologicals	32 6%	148 27%	172 31%	102 19%	97 18%
Analgesia/narcotics	204 36%	225 40%	99 17%	31 5%	9 2%
Sedatives/hypnotics	138 25%	206 37%	138 25%	59 10%	22 4%
Anesthetics/paralytics	31 5%	87 15%	170 30%	198 35%	80 14%
Antacid and GI motility drugs	69 12%	218 38%	183 32%	81 14%	19 3%

17. Listed below are a variety of respiratory or cardiac conditions. Please indicate the time frequency on average you manage neonates with any or all the conditions with #1 being a every day and #5 being rarely or never. (Select the option is closest to your experience)

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Every day	Every week	Every month	Within the last year	Rarely or never
Respiratory distress syndrome	462 81%	90 16%	11 2%	4 1%	3 1%
Air leaks	26 5%	107 19%	273 48%	151 26%	14 2%
Apnea of prematurity	442 78%	94 17%	21 4%	8 1%	4 1%
Meconium aspiration	43 8%	131 23%	250 44%	132 23%	11 2%
Persistent pulmonary hypertension	33 6%	124 22%	266 47%	137 24%	9 2%
Pneumonia	39 7%	183 32%	258 46%	82 14%	5 1%
Pulmonary hemorrhage	12 2%	31 5%	146 26%	304 54%	75 13%
Hypoplastic lungs	13 2%	30 5%	98 17%	322 57%	105 18%
Diaphragmatic hernia	15 3%	23 4%	82 14%	285 50%	163 29%
Bronchopulmonary dysplasia	182 32%	122 21%	155 27%	76 13%	33 6%

18. Listed below are a variety of musculoskeletal or skin conditions. Please indicate the time frequency on average you manage neonates with any or all the conditions with #1 being a every day and #5 being rarely or never. (Select the option is closest to your experience)					
Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Every day	Every week	Every month	Within the last year	Rarely /never
Metatarsus adductus	2 0%	10 2%	70 12%	327 58%	158 28%
Clubfoot	1 0%	9 2%	72 13%	419 74%	68 12%
Hip dislocation/dysplasia	1 0%	7 1%	62 11%	358 63%	142 25%
Scoliosis	1 0%	3 1%	12 2%	146 26%	406 71%
Achondroplasia	2 0%	4 1%	5 1%	230 40%	327 58%
Osteomyelitis	3 1%	3 1%	12 2%	224 39%	327 57%
Septic arthritis	1 0%	3 1%	3 1%	101 18%	459 81%
Fracture	3 1%	6 1%	50 9%	395 70%	113 20%
Nerve damage injuries	2 0%	5 1%	52 9%	370 65%	137 24%
Torticollis	3 1%	5 1%	24 4%	206 36%	329 58%
Transient skin disorders, (i.e. erythema toxicum, milia, etc.)	161 28%	199 35%	137 24%	56 10%	14 2%
Hemangiomas	30 5%	133 23%	223 39%	161 28%	19 3%
Subcutaneous fat necrosis	3 1%	3 1%	34 6%	217 38%	308 55%
Ecchymosis	84 15%	141 25%	153 27%	119 21%	66 12%
Auricular tags	12 2%	76 13%	206 36%	235 41%	38 7%
Petechiae	19 3%	120 21%	252 44%	168 30%	8 1%
Port wine stain	6 1%	31 5%	98 17%	273 48%	158 28%

Pigmentation changes	21 4%	79 14%	120 21%	249 44%	100 18%
Epidermolysis bullosa	1 0%	8 1%	17 3%	169 30%	374 66%

19. Listed below are a variety of gastrointestinal, renal or genitourinary conditions. Please indicate the time frequency on average you manage neonates with any or all the conditions with #1 being a every day and #5 being rarely or never. (Select the option is closest to your experience)

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Every day	Every week	Every month	Within the last year	Rarely/never
Abdominal wall defects	23 4%	66 12%	165 29%	247 43%	68 12%
Diaphragmatic defects	12 2%	25 4%	99 17%	311 55%	123 22%
Hirschsprung's disease	5 1%	11 2%	89 16%	355 63%	106 19%
Necrotizing enterocolitis	28 5%	79 14%	252 44%	189 33%	22 4%
Obstructions	16 3%	56 10%	213 38%	262 46%	21 4%
Perforations	14 2%	48 8%	159 28%	281 50%	65 11%
Polycystic dysplastic kidneys	6 1%	7 1%	62 11%	327 57%	167 29%
Rein vein/artery thrombosis	3 1%	6 1%	31 5%	263 46%	264 47%
Tracheoesophageal fistula	4 1%	23 4%	83 15%	329 58%	127 22%
Acute renal failure/insufficiency	16 3%	51 9%	167 29%	261 46%	74 13%
Urinary outflow tract obstruction	5 1%	6 1%	89 16%	297 53%	168 30%
Testicular torsion	4 1%	2 0%	12 2%	179 32%	371 65%
Hypopadias	8 1%	38 7%	203 36%	299 53%	19 3%
Epispadias	3 1%	13 2%	72 13%	280 49%	199 35%
Inguinal hernia	18 3%	100 18%	244 43%	189 33%	17 3%
Exstrophy of the bladder	3 1%	2 0%	11 2%	138 24%	415 73%
Hydronephrosis	10 2%	65 11%	212 37%	238 42%	43 8%

20. Listed below are a variety of endocrine/metabolic or hematopoietic conditions. Please indicate the time frequency on average you manage neonates with any or all the conditions with #1 being a every day and #5 being rarely or never. (Select the option is closest to your experience).

Top number is the count of respondents selecting the option. Bottom % is percent of the total Respondents selecting the option.	Every day	Every week	Every month	Within the last year	Rarely /never
Hypoglycemia	181 32%	305 54%	72 13%	6 1%	2 0%
Hyperglycemia	85 15%	220 39%	173 31%	75 13%	14 2%
Adrenal insufficiency	23 4%	83 15%	166 29%	226 40%	67 12%
Hypomagnesemia	9 2%	39 7%	101 18%	203 36%	210 37%
Hypermagnesemia	20 4%	130 23%	196 35%	148 26%	70 12%
Hypothyroidism	9 2%	37 7%	187 33%	272 48%	60 11%
Infants of diabetic mothers	129 23%	276 49%	142 25%	12 2%	4 1%
Osteopenia of prematurity	50 9%	114 20%	179 32%	147 26%	76 13%
Anemia	233 41%	226 40%	88 16%	16 3%	4 1%
Polycythemia	18 3%	98 17%	276 49%	159 28%	13 2%
Hyperviscosity	7 1%	44 8%	172 31%	255 45%	84 15%
Hemorrhagic disease of the newborn	8 1%	21 4%	81 14%	252 45%	203 36%
DIC	6 1%	21 4%	107 19%	294 52%	134 24%
Thrombocytopenia	38 7%	155 28%	273 49%	87 16%	6 1%
Thrombocytosis	8 1%	33 6%	135 24%	240 43%	145 26%

Neutropenia	42 7%	191 34%	233 42%	86 15%	9 2%
Neutrophilia	21 4%	98 18%	177 32%	190 34%	74 13%
Rh disease	9 2%	39 7%	129 23%	253 45%	131 23%
ABO incompatibility	31 5%	97 17%	257 45%	167 30%	13 2%
Hyperbilirubinemia	350 62%	167 30%	42 7%	4 1%	3 1%
Breast milk jaundice	108 19%	172 31%	157 28%	87 16%	37 7%
Kernicterus	7 1%	4 1%	12 2%	80 14%	460 82%

21. Listed below are a variety of infectious diseases or neurologic conditions. Please indicate the time frequency on average you manage neonates with any or all the conditions with #1 being a every day and #5 being rarely or never. (Select the option is closest to your experience).

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Every day	Every week	Every month	Within the last year	Rarely or never
Neonatal sepsis	237 42%	219 39%	82 14%	25 4%	3 1%
Group B Streptococcus	44 8%	109 19%	175 31%	220 39%	17 3%
E. coli	17 3%	61 11%	186 33%	271 48%	30 5%
Staphylococcal	42 7%	108 19%	227 40%	171 30%	18 3%
Klebsiella	14 2%	40 7%	137 24%	279 50%	92 16%
Enterococcus	13 2%	47 8%	148 26%	292 52%	62 11%
Candidiasis	11 2%	30 5%	147 26%	285 50%	92 16%
CMV	5 1%	12 2%	43 8%	321 57%	185 33%
Hepatitis B	7 1%	13 2%	24 4%	162 29%	360 64%
Toxoplasmosis	2 0%	3 1%	9 2%	139 25%	413 73%
Herpes	4 1%	11 2%	51 9%	314 56%	179 32%
HIV/AIDS	4 1%	6 1%	42 7%	218 39%	295 52%
Chlamydia	4 1%	9 2%	46 8%	179 32%	325 58%
Gonorrhea	3 1%	7 1%	25 4%	128 23%	398 71%
Syphilis	3 1%	9 2%	29 5%	159 29%	357 64%
Varicella	3 1%	4 1%	9 2%	100 18%	445 79%
Respiratory syncytial virus	13	29	90	282	147

	2%	5%	16%	50%	26%
MRSA abscess	8	13	72	255	212
	1%	2%	13%	46%	38%
Hypoxic-ischemic encephalopathy	14	53	179	271	45
	2%	9%	32%	48%	8%
Cranial hemorrhage	58	142	204	133	26
	10%	25%	36%	24%	5%
Hydrocephalus	26	63	166	243	64
	5%	11%	30%	43%	11%
Neural tube defects	10	13	108	274	160
	2%	2%	19%	48%	28%
Seizures	18	53	219	254	21
	3%	9%	39%	45%	4%
Jitteriness	81	178	233	66	7
	14%	32%	41%	12%	1%

22. Listed below are a variety of genetic disorders or conditions affecting eyes, ears, nose and throat or relate to the intrauterine drug exposed infant. Please indicate the time frequency on average you manage neonates with any or all the conditions with #1 being a every day and #5 being rarely or never. (Select the option is closest to your experience).

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Every day	Every week	Every month	Within the last year	Rarely or never
Chromosomal syndromes	24 4%	75 13%	255 45%	199 35%	13 2%
Inborn errors of metabolism	6 1%	13 2%	63 11%	360 64%	121 21%
Cataracts	1 0%	5 1%	8 1%	170 30%	382 67%
Glaucoma	1 0%	5 1%	4 1%	81 15%	467 84%
ROP	55 10%	135 24%	181 32%	160 28%	34 6%
Strabismus	4 1%	13 2%	34 6%	175 31%	338 60%
Conjunctivitis	8 1%	42 7%	195 35%	251 45%	68 12%
Corneal abrasion	1 0%	4 1%	12 2%	87 16%	455 81%
Nasolacrimal duct obstruction	12 2%	60 11%	159 28%	216 38%	115 20%
Ear malformations	4 1%	18 3%	108 19%	322 57%	111 20%
Cleft lip and/or palate	4 1%	16 3%	147 26%	368 65%	28 5%
Alcohol in utero exposure	9 2%	38 7%	134 24%	290 52%	89 16%
Nicotine in utero exposure	62 11%	154 27%	187 33%	127 23%	33 6%
Cocaine in utero exposure	25 4%	81 14%	220 39%	192 34%	46 8%
Heroin/methadone exposure	28 5%	74 13%	207 37%	214 38%	39 7%

23. Of the laboratory tests, diagnostic studies or equipment below, how often do you order, perform, interpret or use them with #1 being every day and #5 being rarely or never? (Select the option that is closest to your experience).

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Every day	Every week	Every month	Within the last year	Rarely or never
Complete blood count	402 72%	141 25%	7 1%	2 0%	4 1%
White blood count with differential	404 72%	144 26%	7 1%	3 1%	5 1%
Urinalysis	59 11%	129 23%	251 45%	103 18%	18 3%
Hematocrit	370 67%	166 30%	17 3%	1 0%	2 0%
Hemoglobin	332 59%	160 29%	33 6%	9 2%	25 4%
Platelets	358 64%	180 32%	18 3%	2 0%	1 0%
Glucose	484 86%	70 12%	7 1%	1 0%	1 0%
Rh (Coombs)	245 44%	243 43%	64 11%	8 1%	3 1%
Calcium	365 65%	162 29%	24 4%	7 1%	3 1%
Phosphorus	256 46%	230 41%	51 9%	15 3%	5 1%
Electrolytes	427 76%	115 20%	15 3%	3 1%	2 0%
CSF	31 6%	163 29%	265 47%	93 17%	10 2%
Newborn screening testing	234 41%	227 40%	91 16%	6 1%	6 1%
T4 assay	45 8%	141 25%	255 46%	94 17%	24 4%
Bilirubin	424 76%	127 23%	7 1%	1 0%	2 0%
C-reactive protein	195	181	79	52	51

	35%	32%	14%	9%	9%
Genetic studies (FISH, karyotyping, etc.)	13	81	288	163	17
	2%	14%	51%	29%	3%
STD screening	56	74	152	154	126
	10%	13%	27%	27%	22%
TB screening	17	19	58	131	336
	3%	3%	10%	23%	60%
X-ray	425	114	22	2	1
	75%	20%	4%	0%	0%
CT scan	18	124	281	114	27
	3%	22%	50%	20%	5%
MRI	21	100	277	133	33
	4%	18%	49%	24%	6%
EKG	33	87	260	159	21
	6%	16%	46%	28%	4%
EEG	18	54	246	199	43
	3%	10%	44%	36%	8%
ECG	48	73	219	164	51
	9%	13%	39%	30%	9%
Radionuclide imaging	2	14	87	193	266
	0%	2%	15%	34%	47%
Voiding cystourethrogram	2	18	139	272	132
	0%	3%	25%	48%	23%
Ultrasound	112	295	112	32	13
	20%	52%	20%	6%	2%
Phototherapy	347	190	18	2	4
	62%	34%	3%	0%	1%
Bili-lights (blanket)	293	192	51	9	15
	52%	34%	9%	2%	3%
Cardiorespiratory monitors	517	32	4	1	6
	92%	6%	1%	0%	1%
Infusion pumps	440	55	16	12	34
	79%	10%	3%	2%	6%

24. Of the skills or assessments listed below, how often do you perform them with #1 being every day and #5 being rarely or never? (Select the option that is closest to your experience).					
Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Every Day	Every Week	Every Month	Within the last year	Rarely or Never
Review maternal history	467 83%	87 15%	5 1%	1 0%	2 0%
Interpret significance of antepartum history	432 77%	116 21%	6 1%	3 1%	3 1%
Interpret significance of intrapartum history	436 78%	113 20%	5 1%	3 1%	3 1%
Interpret significance of fetal assessment tests	360 64%	159 28%	32 6%	8 1%	7 1%
Perform general neonatal physical exam	537 95%	23 4%	1 0%	1 0%	2 0%
Assess gestational age	343 61%	164 29%	33 6%	14 2%	9 2%
Perform neonatal neurological exam	356 64%	137 25%	37 7%	19 3%	9 2%
Perform neonatal behavioral exam	245 44%	158 28%	92 17%	32 6%	29 5%
Assess neonatal behavioral state	380 67%	112 20%	47 8%	14 2%	10 2%
Take axillary temperature	180 32%	68 12%	63 11%	101 18%	147 26%
Use incubators	471 84%	34 6%	16 3%	15 3%	26 5%
Use radiant warmers	466 83%	46 8%	16 3%	9 2%	22 4%
Assess thermoregulation needs	477 85%	55 10%	9 2%	9 2%	10 2%
Perform bag and mask ventilation	189 34%	299 53%	65 12%	9 2%	2 0%
Perform endotracheal intubation	93 17%	287 51%	151 27%	23 4%	9 2%
Perform cardiac massage	10 2%	24 4%	174 31%	226 40%	130 23%
Perform Apgar scoring	386 69%	110 20%	27 5%	14 2%	25 4%
Order/manage IV lines	503	42	8	3	4

	90%	8%	1%	1%	1%
Order/manage central lines	453	64	27	12	7
	80%	11%	5%	2%	1%
Calculate caloric needs	500	41	10	6	4
	89%	7%	2%	1%	1%
Manage enteral feedings	520	27	2	4	5
	93%	5%	0%	1%	1%
Manage TPN administration	482	47	15	3	12
	86%	8%	3%	1%	2%
Manage oral feedings	516	28	2	4	3
	93%	5%	0%	1%	1%
Manage gavage feedings	514	30	3	4	5
	92%	5%	1%	1%	1%
Calculate fluid requirements	518	26	2	5	5
	93%	5%	0%	1%	1%
Determine electrolyte requirements	503	43	6	4	6
	90%	8%	1%	1%	1%
Assess insensible water loss	400	104	34	13	12
	71%	18%	6%	2%	2%
Prescribe drug therapy	497	55	5	4	5
	88%	10%	1%	1%	1%
Calculate drug dosage	504	46	6	5	1
	90%	8%	1%	1%	0%
Assess for drug side effects	459	72	15	7	2
	83%	13%	3%	1%	0%
Assess for drug incompatibilities	410	95	24	17	11
	74%	17%	4%	3%	2%
Insert/remove chest tubes	28	23	154	283	75
	5%	4%	27%	50%	13%
Coordinate ventilator care	404	84	38	22	15
	72%	15%	7%	4%	3%
Perform needle aspiration	13	26	152	298	72
	2%	5%	27%	53%	13%
Monitor pulse oximetry	524	29	2	3	4
	93%	5%	0%	1%	1%
Coordinate oxygen therapy	514	38	3	1	4
	92%	7%	1%	0%	1%
Provide tracheotomy care	14	32	52	199	263
	2%	6%	9%	36%	47%
Interpret blood gases	472	64	17	4	3

	84%	11%	3%	1%	1%
Central line management	417	65	40	14	26
	74%	12%	7%	2%	5%
Peripheral line management	457	55	22	7	23
	81%	10%	4%	1%	4%
Perform heel sticks	83	57	85	98	235
	15%	10%	15%	18%	42%
Monitor phototherapy	422	86	17	12	23
	75%	15%	3%	2%	4%
Perform lumbar/spinal taps	28	143	254	108	28
	5%	25%	45%	19%	5%
Perform Ortolani maneuver	199	205	79	32	45
	36%	37%	14%	6%	8%
Observe parent infant attachment behaviors	329	151	51	21	9
	59%	27%	9%	4%	2%
Observe for parental stress	359	137	48	15	6
	64%	24%	8%	3%	1%
Counsel siblings	13	55	136	128	232
	2%	10%	24%	23%	41%
Provide grief counseling to parents/family	29	59	190	191	94
	5%	10%	34%	34%	17%
Recognize pathologic grief responses	50	100	180	172	62
	9%	18%	32%	30%	11%
Refer parents to support groups	38	95	176	164	87
	7%	17%	31%	29%	16%
Engage in discharge planning	310	175	58	14	5
	55%	31%	10%	2%	1%
Engage in parent teaching	294	176	55	24	14
	52%	31%	10%	4%	2%
Order/evaluate vision screening	183	219	80	24	43
	33%	40%	15%	4%	8%
Order/evaluate hearing screening	266	223	53	8	8
	48%	40%	9%	1%	1%
Read research articles	84	249	203	20	5
	15%	44%	36%	4%	1%
Collect research data	29	77	115	179	161
	5%	14%	20%	32%	29%
Obtain informed consent	143	252	118	27	24
	25%	45%	21%	5%	4%

25. How do you keep up with new practice information? (Check as many as apply)

Hold membership in a professional organization	459	79%
Attend live presentation continuing education programs	533	92%
Use home study continuing education materials/tests	368	63%
Use web-based (online) home study education programs	372	64%
Attend online programs like podcasts or webinars	202	35%
Attend in-service institutional programs	453	78%
Visit professional websites	325	56%
Subscribe to a journal or professional resource	453	78%
Pursue academic degree or classes	94	16%
Read research articles or papers	500	86%
Participate in research projects	213	37%