

Instructions

Please rate the Emergency Severity Index (ESI) level for each case study (levels 1-5). Use the ESI V.4 algorithm to rate the cases.

- 1) A 16-year-old male wearing a swimsuit walks into the emergency department. He tells you that he dove into a pool and his face struck the bottom. You notice an abrasion on his forehead and nose as he tells you that both of his hands “feel tingly”. He is alert, anxious, pale, diaphoretic and breathing 28/min. Heart rate is 50.
- 2) 8 month old baby girl brought to the ED by Mom who tells you that she thinks her baby has chicken pox. Infant is sleeping in mom’s arms. You note a rash on her chest and belly that does not blanch; she feels cool to your touch. T 99F (37.2 C) HR 190 RR 24.
- 3) You are trying to triage an 18 month old whose father brought him the ED for vomiting. The child is very active and trying to get off his father’s lap to play with your equipment. His father distracts him with a sippy cup which he happily drinks from. T 37.2 (100F) HR 122 RR 22.
- 4) I think my son has swimmer’s ear. He spends most of the day in the pool with his friends, so I’m not surprised” the mother of an otherwise healthy 10 year old tells you. The child has no complaints except for painful itchy ears. T 36.8 (98.3F) HR 88 RR 16.
- 5) “The smoke was so bad; she’s been having trouble breathing ever since” reports the father of a 6 year old girl who ran into her burning house to try and rescue her cat. She is hoarse, has a cough, is audibly wheezing and is breathing 50 times a minute. Work of breathing is labored and SpO2 is 82%. History of asthma, uses inhalers when needed.
- 6) A 17 year old male is brought in by his mother after falling off his bike. He says his right wrist hurts and rates the pain as a 5 on a 1-10 scale. His hand is warm with normal sensation and he is able to move his fingers. “Thank goodness he had his helmet on” his mother tells you.
- 7) “I think he has an ingrown toenail” reports the mom of a healthy 11 year old boy. The boy tells you “It started hurting last week” and today he noticed” it was red and swollen”. Big toe on right foot looks mildly swollen and red around the nail. He has an appointment with his family doctor the following day that his mother does not think she can take him to. T 98.8 (36.1 C), HR 82, RR 18 BP 108/70.
- 8) A 17-year-old handcuffed male walks into the emergency department accompanied by the police. The parents called 911 because their son was out of control: verbally and physically acting out and threatening to kill the family. He is alert, cooperative at triage

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and answers your questions appropriately. He is currently taking no medications. T 98F (36.7 C) HR 82 RR 14 BP 128/80.

9) EMS radios to say they are en route with a 5 year old girl who aspirated a balloon at a birthday party. She is alert but drooling and unable to speak. HR 124 RR 28 sat 99% on blow by oxygen.

10) "I just realized my son is out of his asthma medicine and we're going on vacation in the morning, can you give him some more just in case he needs it?" The father of a 6 year old boy asks you. The child is climbing on and off his father's lap and playing with your blood pressure cuff. He has good color and is breathing comfortably. His father says he has not been sick or wheezed recently.

11) A 9-year-old boy presents to the emergency department with his parents who request he be checked because he has a severe shellfish allergy and he mistakenly ate a dip that may have contained shrimp. Mom says she administered the child's epi pen. The boy tells you that he feels ok, just "kind of shaky". No wheezes or rash noted. T 97 (36.1 C) HR 118, RR 20, SpO2 97% BP 116/74.

12) "She keeps running to the bathroom" says the grandmother of an 8-year-old girl. Grandma requests to see a doctor because she thinks the child has a possible urinary tract infection. The child says "it hurts to pee". She says her tummy doesn't hurt and Grandma says she hasn't noticed anything different about child's underwear when you ask about vaginal discharge. T. 97.4 (36.3 C), HR 88, RR 20, BP 122/70.

13) A 3 year old boy is brought to triage by his mom who tells you he cut his hand on a glass while he was trying to help her wash the dishes. You note a 3 cm jagged cut on his hand with no active bleeding. When you try to examine the wound he screams and pulls away, trying to hit you with his other hand. T 98 (36.7 C) HR 110 RR 26 BP 100/68.

14) A two year old is brought in by his mother for a fever. She states that he has been fussy at home and eating less than usual but is drinking well. She tells you that she thinks immunizations give you autism and her son has not had any of his shots. The child is fussy but alert, with no obvious source for his fever on your exam. T 39 (102.2F) HR 140 RR 24 sat 98% RA.

15) He has rashes on his asses" the mother of a 14 month old boy tells you. The child is alert, playful, is breathing normally and has good color. When you remove his diaper to take his temperature, you note that his buttocks are reddened and he has a macular-papular rash. The rash is only in his diaper area. His diaper is slightly wet. T 99 (37.2 C) HR 110 RR 26.

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16) A woman brings in her 12 year old son because he stepped on a rusty nail in their barn. The child says his foot hurts and he thinks a piece of the nail is still in it. His last tetanus shot was at 4 years of age.

17) "I just turned my back for a minute" cried the mother of a four year old. The child was pulled out of the family pool by a neighbor who immediately administered mouth-to-mouth resuscitation. The child is now breathing spontaneously but continues to be unresponsive. On arrival in the emergency department vital signs were: T 96F (35.5C) HR 126, RR, 28, BP 80/64, SpO2 91% on a non-rebreather mask.

18) A 1 month old infant girl is carried into triage in a child safety seat by her parents. They tell you that "baby sick" but are otherwise unable to understand your questions or give you any more information as they do not speak or understand your language. The baby appears to be sleeping, respirations quiet, color normal. You notice some yellowish liquid on the baby's blanket next to her face. T 98 (36.7 C) HR 130 RR 30.

19) A 15 year old girl is brought in by her mother who says that the child has been sleeping all day and refusing to go to school for the past week. This morning she said she was going to run in front of a car because she'd rather be dead. The child is alert and quiet. She does not make eye contact with you and refuses to answer your questions.

20) A 4 year old girl is transported to the ED following a fall off the jungle gym at preschool. A witness reports that the child hit her head, and was unconscious for a couple of minutes. On arrival you notice that the child's left arm is splinted and that she is very sleepy and arouses only with noxious stimuli. T 97.8 (36.6 C) HR 162, RR 38.

21) A nine year old male tells you he fell on the playground at recess. He has a 3 cm laceration over his right knee. He is otherwise healthy, has no allergies and his immunizations are up to date.

22) A very angry father of a 3 year old boy carries his son to triage telling you that he just picked his son up after a weekend visit with his mother and that he is sure that the child has been "messed with". He refuses to sit down with the child so that you can obtain vital signs and tells you that he better get to see the doctor NOW. The child is alert, breathing normally though he is crying, and has good color.

23) "The pediatrician sent us to the Emergency Department because my son may have appendicitis" reports the mother of a previously healthy seven year old boy. "He woke up this morning with a tummy ache. He hasn't wanted to play or eat and he threw up all over the doctor's office." The child is sitting quietly holding an emesis basin. T 37.9 (100.2F) HR 94 RR18 BP 103/62.

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24) 7 year old boy limps into triage. He tells you “I hurt my foot when I fell off of my skateboard”. He says it hurts when he walks; you notice swelling over the medial aspect of the ankle. T 96.8 (36 C) HR 90 RR 22 BP 102/60.

25) A nine day old is brought in by EMS after the family called to say she had stopped breathing and her lips turned blue. The child was pink, alert and crying when EMS arrived. She is currently sleeping comfortably in a car seat. T 37.3 (99F) HR 144 RR28 sat 99% on RA.

Answer Key

1. Level 1. This young man has significant mechanism of injury with symptoms of spinal cord injury and neurogenic shock. He will need immediate life-saving intervention of spinal immobilization and airway management.
2. Level 2. This child has classic symptoms of meningococcal sepsis; she has a non-blanching rash and her heart-rate and “coolness” to touch are early signs of shock. Infants often do not have hyperpyrexia when septic as they have relatively immature thermoregulatory systems. Some children may appear to be “sleeping” when they are actually unresponsive. This child is High Risk and should be placed in the treatment area.
3. Level 5: No resources. This child is well hydrated and active. He will need a physical exam and his father will need reassurance and teaching about oral rehydration.
4. Level 5: The child will need a physical exam and a prescription for ear drops. If the drops are administered in the ED that does not count as a resource.
5. Level 1. This child has obvious signs of impending respiratory failure: tachypnea, labored breathing and hypoxia. She will need immediate life saving treatment with endotracheal intubation and ventilatory management.
6. Level 4: One resource. X-rays will be needed to evaluate for a fracture. If a splint is placed, that is not considered a resource. If his pain were >7 out of 10 you would need to consider making him an ESI 2. If his wrist appeared deformed or if there were neurovascular compromise he would require a higher acuity level as well.
7. Level 4. Although this child has a doctor’s appointment, he is now in the ED and will likely receive an exam and a simple procedure of excising the toenail. He is not likely to need sedation or any further diagnostics.
8. Level 2. While this young man may seem to be under control at the moment, he is still a High Risk patient. He has a history of recent violent behavior. Just because someone is in handcuffs does not mean they are not still dangerous.
9. Level 1. Life-threatening situation. This girl’s airway is not occluded, but could become that way if the balloon is not rapidly removed from her throat. You would not want to “do” anything in triage as causing further agitation may cause the

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child to cry or struggle and the danger of the balloon occluding her airway would be even greater. Even if you do not have a bed for this child you would get her to the treatment area immediately.

10. Level 5: No resources. The child just needs a physical exam and a prescription refilled which are not resources.
11. Level 2. This child is a High Risk patient; he has a significant history of anaphylaxis and even though he appears to be stable at this time, biphasic reactions account for 50% of deaths in anaphylaxis.
12. Level 4: One resource-laboratory (UA/C&S); exam and prescription. (The exam and Rx are not resources. If the first dose of antibiotics is given in the ED, that is not a resource either unless it is given parenterally).
13. Level 3: This patient is going to require multiple resources. He will need the wound repaired, for which he will likely need sedation and he may also need an x-ray to evaluate for a retained foreign body.
14. Level 3. This child meets the latest ESI 4 guidelines of a Level 3 pediatric patient. He has a fever, incomplete immunizations and no obvious source of infection.
15. Level 5: The child needs an exam and may need a prescription for a topical antifungal (prescriptions do not count as a resource).
16. Level 3: More than one resource. The child will need an x ray of his foot and removal of the foreign body. He will also need a tetanus shot but that is not counted as a resource.
17. Level 1. This child has significant mechanism of injury with clear neurological complications. Given the unresponsiveness and hypoxia on a non rebreather the child is in need of immediate airway management.
18. Level 2. This infant, really a neonate, may simply be spitting up formula, and have inexperienced parents, but because she can't tell you what is wrong and neither can the parents due to their inability to communicate with you properly in triage, she is a High Risk patient. In triage you cannot rule out more serious causes of the vomiting (such as a malrotation or pyloric stenosis) without better history and assessment. You would not want this infant waiting in your waiting area.

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19. Level 2. High risk situation. The patient is depressed and expressing suicidal thoughts. She should be considered a danger to herself and should not be left alone or in the waiting room.
20. Level 1. This child has an altered mental status after a significant, witnessed, closed head injury. She is also tachycardic and tachypneic and may have pulmonary contusions or internal bleeding.
21. Level 4: One resource. The laceration will require suturing (a simple procedure). If the child were younger or uncooperative he might need sedation for the repair which would make him an ESI 3.
22. Level 2. Although this child appears to be in no distress, we are also triaging the father in this case. The triage nurse, the child, other patients and staff are at risk of being harmed by this father. Calling security or an outside police agency may be a possibility, but it would not be prudent to allow this family to wait in the waiting area.
23. Level 3: Two or more resources. This child will likely require labs, IV fluids and diagnostic tests such as ultrasound or CT scan.
24. Level 4: This patient will require one resource (an x-ray). He may need a splint or crutches, but those are not resources. If his ankle were deformed or an orthopedic consult is routine for all fracture patients at your institution he would be a level 3.
25. Level 2: This is a high risk situation. This child had an apparent life threatening event (ALTE) at home, and while it may have been due to a benign cause (such as reflux), you need to rule out more serious problems such as sepsis, seizures or cardiac disease. This infant will need multiple diagnostic tests and admission to the hospital.