



**Alberta Health  
Services**  
Calgary Health Region

Child Development Centre  
Suite 200, 3820-24 Ave NW  
Calgary, Alberta  
Mailing Address:  
2888 Shaganappi Trail NW  
Calgary, Alberta T3B 6A8  
Phone (403) 955 5999 Fax (403) 955-  
5990

[REDACTED]

**PHYSICIAN REPORT**

**NAME: Ezekiel Stephan**

**DOB: 2010/08/20**

**ACH #: 1032777003**

**DATE OF ASSESSMENT:** March 15, 2012

**LOCATION OF ASSESSMENT:** Pediatric ICU, Alberta Children's  
Hospital

**PERSONS PRESENT DURING ASSESSMENT:** Dr. Jenn  
D'Mello, Collet Stephan (mother), David Stephan (father). Various  
nurses and other family members in and out of room during  
interview/assessment.

**INFORMATION OBTAINED FROM:** Collet Stephan (mother) and  
medical chart

[REDACTED]

**HISTORY OF PRESENTING CONCERN:**

Ezekiel's mother (Collet) describes that he was last completely well  
approximately 2.5 weeks ago on Feb. 26<sup>th</sup> 2012. On Feb. 27<sup>th</sup> Ezekiel  
developed a fever and was whining a lot. Initially the parents thought  
he was teething but then later in the day he developed  
"whistly/wheezy" breathing and had some increased difficulty

breathing which Collet imitates as suprasternal indrawing. They phoned a family friend who was also their birth attendant and is an RN according to the parents. Over the phone the friend could hear Ezekiel's breathing and told the parents it sounded like croup. Ezekiel did not have cough, runny nose, or congestion at that time but did have a decreased appetite starting that day. Collet subsequently looked croup up on the internet and saw that it was a viral infection and that the only medical treatment typically offered was a dose of steroids if it was severe. As per the internet suggestions, they treated Ezekiel's breathing difficulty with cool air and a humidifier.

They also started Ezekiel on some herbal/naturopathic remedies which they believe help fight off viral infections and have given Ezekiel in the past when he has a cold. These included olive leaf extract, garlic, and methylsulfonylmethane (MSM). This is in addition to the daily herbal/naturopathic supplements that Ezekiel has been given by his parents since approximately 10 or 11 months of age. His routine daily supplements include EMpowerplus, Omega 3-6-9, whey protein, FermPlus, and a digestive enzyme (Collet couldn't recall its name at the time of the interview). The parents mix these ingredients with fruit and frozen berries into a smoothie and give one to Ezekiel on a daily basis.

Ezekiel's "croup" symptoms continued over the next week although of note he never really had a cough. He continued to have a decreased appetite with minimal food intake over that week. He was only interested in drinking small amounts so Collet and David used an eye dropper to make sure he was getting enough fluids and to give him his daily smoothie. He had normal voiding and stooling. After the first day of illness his fever never returned. His skin frequently felt hot but he was never sweaty or shaking and when they checked his temperature with a tympanic thermometer it never went higher than about 37.8 degrees. Throughout the week Ezekiel had low energy and is described as not being playful and spending most days watching TV and cuddling with Collet. Ezekiel continued to have episodes of increased work of breathing which were usually worse at night but the parents felt he was gradually improving and responding to the cool air, humidifier, and extra herbal remedies.

By March 5<sup>th</sup> Ezekiel seemed much improved. His energy was not yet back to normal but he no longer had any difficulty breathing and was well enough to go to a pre-school type program he attends with Collet. He played a bit that day and also had a bit of an appetite and ate some small amounts of solid food for the first time in the past week. Collet stopped his olive leaf extract, garlic, and MSM as he seemed to have recovered from his "croup".

The following day (Mar 6<sup>th</sup>) Ezekiel was unusually lethargic- more so than he had been during any of the days in the week prior. He laid in bed the entire day and his only response would be to moan unhappily when Collet left the room. He again would not eat or drink and was restarted on his extra herbal remedies. Collet also describes noticing an unusual "neurological symptom" that day where Ezekiel had repetitive movements of his right arm where he would pull at his diaper or rub his cheek and these movements seemed unusual and involuntary to Collet. She wondered if these symptoms were related to starvation as he had eaten so little the week before.

The following day (Mar 7<sup>th</sup>) Ezekiel seemed a bit better. His abnormal movements had stopped and he was not quite as lethargic. He was still far from playful but would at least watch a bit of TV that day. From Mar 8-10<sup>th</sup> he seemed to gradually improve and regain a bit of his appetite but he was never active and playful. Due to his improvement his extra herbal remedies were stopped again.

On Mar 11<sup>th</sup> Ezekiel's symptoms worsened again. He would not eat or drink, was lethargic, and they noticed his body to be very stiff. These symptoms persisted on Mar 12<sup>th</sup> and he started being so stiff that his back was arched. At that time they called their family friend/birth attendant again who came over to examine Ezekiel by checking his vitals and listening to him with a stethoscope. According to Collet their friend concluded that Ezekiel's symptoms could be from meningitis. Collet then looked up meningitis on the internet; specifically she mentioned looking at the WebMD website. She came across the Kernig and Brudzinski's test for meningismus and tried them on Ezekiel. She reports the tests were obviously positive, further indicating to her that Ezekiel was suffering from meningitis. Based on her reading she felt he more likely had viral meningitis than bacterial as he hadn't really had a fever. Ezekiel's parents began treating him by resuming his olive leaf extract, garlic, and MSM. They also ensured he was getting lots of fluids with the eye dropper as he would not drink on his own and they additionally started him on Total Reload (an electrolyte and amino acid supplement). Within 2 hours they felt he'd had some improvement and was less lethargic. They called their naturopath in Lethbridge to ask for recommendations for treating viral meningitis and were advised to start him on something called BLAST.

Collet reports that during this second week of illness Ezekiel remained afebrile with no return of difficulty breathing. He had no cough, congestion, vomiting or diarrhea. He was having bowel movements less frequently than usual but continued to have a few voids each day.

103277700

No one else in the family or that Ezekiel was in contact with was sick during the time period of his illness.

The following day (Mar 13<sup>th</sup>) the family decided to drive to Lethbridge to do some errands which included picking up the BLAST from their naturopath. Ezekiel seemed a bit more alert that morning but he was too stiff to be successfully placed in his car seat so his crib mattress was put in the back of the car and he laid on that for the drive. They picked up the BLAST and started Ezekiel on that and then drove back home. David stayed in the back with him while Collet drove on the way home and at that time they felt he was a bit less stiff and a bit more responsive. They continued to give him frequent fluids. He had a good nap after they got home and seemed even more alert after that. He was still far from his normal activity level but he was able to respond to his parents and do some sign-language which is how he frequently communicates with them. He then had another nap and upon waking from that at about 8:30pm he was noted by Collet to have abnormal breathing where he seemed to be gasping and struggling to breath followed by a pause in his breathing for a few seconds. Collet patted him on the back when his breathing paused and he then resumed breathing but paused again shortly after. At that point the parents called 911 and Collet gave Ezekiel some rescue breaths. He coughed up a bit of mucous and again his breathing resumed. In discussion with 911 they decided to drive him to the hospital at that point rather than await an ambulance as his breathing had resumed. They again placed him on the mattress in the back of the car and Collet stayed with him while David drove. Within minutes of departing Ezekiel stopped breathing again. Collet again gave rescue breaths but this time Ezekiel did not resume breathing. Collet then gave him about 5 chest compressions and his breathing resumed again briefly but he continued to have frequent pauses. They called 911 again and remained on speaker phone with 911 until they were met by an ambulance. While on the phone with 911 the parents gave full CPR for about 10 minutes until EMS arrived. Ezekiel had no spontaneous return of breathing and Collet reports he was blue by the time EMS arrived.

He was transported to the Cardston ER where he was intubated and had IOs placed for resuscitation. After about 30 minutes of resuscitation with CPR, multiple doses of epinephrine and atropine he had return of spontaneous circulation. He was then transported to the Lethbridge ER with the Cardston physician and was met by the Alberta Children's Hospital PICU transport team upon arrival in Lethbridge and transported to Calgary via STARS helicopter. He was

1032777003

very hemodynamically unstable at that time with fixed and dilated pupils.

Since arrival in the PICU he has required significant cardio-pulmonary support including epinephrine and vasopressin infusions, intubation and ventilation, and broad spectrum antibiotics. His working diagnosis is bacterial meningitis and he has been on treatment for this since his presentation to Cardston. The diagnosis has not been confirmed by lumbar puncture as he has been too unstable to undergo this procedure. He has not regained consciousness and had a CT done shortly after his arrival in Calgary that demonstrated diffuse cerebral edema with effacement of the basal cisterns. This morning he was assessed by neurology and met criteria for brain death.

**LEGAL STATUS OF COMPLAINT:**

Police have been involved and interviewed the family but I do not have further details of their assessment at present.

**CHILD AND FAMILY SERVICES INVOLVEMENT:**

Child and family services have been involved and interviewed the family but I do not have further details of their assessment at present.

**FAMILY, SOCIAL HISTORY:**

David is 28 years-old and works in sales and marketing for the family business (EMPowerplus micronutrient treatment). Collet is 31 years-old and previously worked for EMPowerplus as well but has been a stay-at-home mother since the birth of their first child (Ezra, 4 years old). Ezekiel is their second child and Collet is 20 weeks pregnant with their third child. The family of 4 lives alone on an acreage in Cardston county. They have lived there since Dec. 2011, prior to that they lived in Raymond, Alberta. David, Collet and Ezra are all healthy. Collet's brother died from a brain tumor 3 years ago. There are no medical conditions that run in the family and no history of childhood deaths.

**HISTORY OF PAST HEALTH:**

**NEONATAL:**

Collet never saw a physician during her pregnancy and did not have any blood tests or ultrasounds done. Her vital signs were followed regularly by her family friend/birth attendant who is an RN.

1032777003

1032777003

ILLNESS DURING PREGNANCY: none known.

DRUGS/ALCOHOL USE DURING PREGNANCY: none except for  
EMPowerplus which she took daily.

WEEKS GESTATION: 40

LABOR AND DELIVERY: Collet went in to spontaneous labor and had a  
home water birth with her birth attendant. Her labor lasted about 12 hours  
with spontaneous rupture of membranes shortly before delivery. No  
medications were used. Ezekiel was well immediately after birth and  
remained well at regular check-ups by the birth attendant for his first few  
weeks of life.

BIRTH WEIGHT: not obtained

**DEVELOPMENT:**

GROSS MOTOR: no concerns

FINE MOTOR: no concerns

SPEECH/LANGUAGE: no concerns

SOCIAL: no concerns

**MEDICAL:**

HOSPITALIZATION: none.

PAST ILLNESSES: The occasional cold which was treated with olive leaf  
extract and garlic.

SPECIALISTS SEEN: Ezekiel has never seen a physician.

████████████████████ ██████████

**ALLERGIES:** none

**MEDICATIONS:** Daily smoothies from about 11 months-old containing EMPowerplus, Omega 3-6-9, whey protein, FermPlus, and a digestive enzyme. No other medications except occasional use of olive leaf extract, garlic and MSM. Never on Vitamin D. Mom was on daily EMPowerplus while breastfeeding.

1032777003

**REVIEW OF SYSTEMS:**

NEURO: nil

CVS: nil

RESP: nil

GI: Exclusively breastfed until 5 months of age and then began a gradual introduction of solids.

GU: nil

MSK: nil

SKIN: nil

HEME: nil

**PHYSICAL EXAMINATION:**

The exam was limited as Ezekiel was intubated and ventilated in PICU with central venous lines, an arterial line, and a urinary catheter. He also had bandages over large areas of his lower legs from the previous IO insertion sites. I did not feel it was appropriate or safe to turn him over during the exam therefore his back was not examined.

GENERAL: HEIGHT:

WEIGHT: Approx 10kg

VITAL SIGNS: BP: 91/58

HEART RATE: 160

MENTAL STATE: Flaccid, comatose, and completely unresponsive. Has met criteria for brain death.

HEAD: Normal non-dysmorphic appearance with no evidence of trauma.

EARS: normal

EYES: Equal pupils, fixed and dilated. No evidence of retinal hemorrhage on fundoscopy.

1032777003

NOSE: Nares occluded by NG.

OROPHARYNX: Difficult to examine due to ET tube but visualized areas were normal.

CVS: normal heart sounds, weak peripheral pulses, brisk capillary refill.

RESP: intubated and ventilated. Good air entry bilaterally, no increased WOB.

SMR: 1

ABDOMEN: non-distended, no hepatosplenomegaly, positive bowel sounds. Multiple small hard palpable lumps in lower abdomen, presumably stool.

GU: normal with urinary cath in place.

NEURO: No reflexes, completely unresponsive and flaccid.

MSK: no deformities apparent

SKIN: no bruising or rash noted. Some areas of pink skin discoloration presumably secondary to chlorhexidine cleaning solution.

**INVESTIGATIONS:**

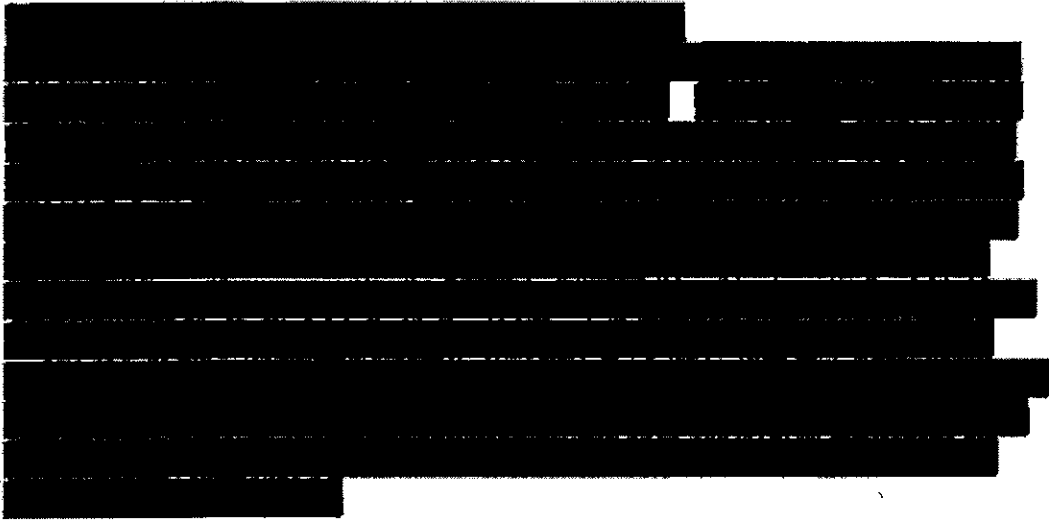
LAB: Initial PICU bloodwork from the morning of Mar 14<sup>th</sup> - Na 152, K 2.3, Cl 126, bicarb 13, glucose 18.7, urea 6, creatinine 15, Ca 1.73, Mg 0.89, phosphate 0.86. Hgb 76, plt 319, WBCs 27.6 with 22.4 neutrophils. INR 1.5, PTT 29.3. Albumin 10, ALP 112, ALT 61, AST 54, CK 365, GGT 16, CRP 101.5. Negative urine tox screen.

IMAGING: CT head showed diffuse cerebral edema with effacement of the basal cisterns.

SKELETAL SURVEY: not done

OPHTHALMOLOGY: not consulted





---

Jenn D'Mello, MD FRCPC  
Alberta Children's Hospital