# GUIDE TO INVESTIGATION OF INFANT BOTULISM

## A. EPIDEMIOLOGIC (OBTAIN PRINCIPALLY FROM PARENT(S))

<table>
<thead>
<tr>
<th>Name (Last)</th>
<th>(First)</th>
<th>Date of Birth</th>
<th>Mo.</th>
<th>Day</th>
<th>Yr.</th>
</tr>
</thead>
</table>

### PERSONAL DATA

- **SEX (7)**
  - 1 Male
  - 2 Female

- **RACE/ETHNICITY (8)**
  - 1 White, not Hispanic
  - 2 Black, not Hispanic
  - 3 Hispanic
  - 4 Asian or Pacific Islander
  - 5 American Indian or Alaska native
  - 6 Unknown

### ADDRESS (No. and Street)

<table>
<thead>
<tr>
<th>City</th>
<th>County</th>
<th>State (9-10)</th>
<th>Phone</th>
</tr>
</thead>
</table>

### MOTHER'S AGE (11-12) & OCCUPATION (13)

### FATHER'S AGE (14-15) & OCCUPATION (16)

### EDUCATION (17)

1. Some grade school
2. Grade school graduate
3. Some high school
4. High School graduate
5. Jr. College/Trade school graduate

### EDUCATION (18)

1. Some grade school
2. Grade school graduate
3. Some high school
4. High School graduate
5. Jr. College/Trade school graduate

### NO. OF PREGNANCIES (19) & NO. OF LIVE BIRTHS (20)

### TYPE OF DELIVERY:

1. VAGINAL
2. C-SECTION

### COMPLICATIONS:

- Yes
- No
- Unknown

- Was infant premature? (24)
  - Yes
  - No
  - Unknown

- If yes, gestational age (25-26) Weeks

### WHAT WAS INFANT'S BIRTH WEIGHT:

- Ib
- Oz

### MATERNAL AND PERINATAL HISTORY

### PRESENT ILLNESS – INFANT BOTULISM

**DEFINED AS ONSET OF CONSTIPATION OR IF NO CONSTIPATION WHEN MOTHER SAYS CHILD BECAME ILL**

### BEFORE ONSET OF PRESENT ILLNESS

- Was infant ever breast fed? (35)
  - Yes
  - No

- Was infant ever formula fed? (36)
  - Yes
  - No

- Was infant primarily (more than 50%) (39)
  - Breast fed
  - Formula fed
  - Both approximately equally

- Did infant ever eat or taste (before onset of illness):

<table>
<thead>
<tr>
<th>FOOD/LIQUID</th>
<th>NEVER 1</th>
<th>ONCE OR A FEW TIMES 2</th>
<th>MANY TIMES 3</th>
<th>DAILY OR MOST DAYS 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula (40)</td>
<td></td>
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<tr>
<td>Cow's Milk (Past.) (42)</td>
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<tr>
<td>Unpasteurized raw milk (43)</td>
<td></td>
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<tr>
<td>Fruit juices (44)</td>
<td></td>
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<tr>
<td>Cereal (45)</td>
<td></td>
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<tr>
<td>Bread (46)</td>
<td></td>
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<tr>
<td>Syrup/water (47)</td>
<td></td>
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<tr>
<td>Honey/water (49)</td>
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<tr>
<td>Sugar/water (51)</td>
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<tr>
<td>Tea/water (52)</td>
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<tr>
<td>Fruits, cooked (53)</td>
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<tr>
<td>Fruits, raw (54)</td>
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<tr>
<td>Vegetables, cooked (55)</td>
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<tr>
<td>Vegetables, raw (56)</td>
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<tr>
<td>Home-canned foods (57)</td>
<td></td>
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<tr>
<td>Baby Foods (Jars) (58)</td>
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<tr>
<td>Other (59)</td>
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</tbody>
</table>

### PRINCIPAL TYPE OR BRAND

- (41)

- (48)

- (50)

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### Dietary History (Cont'd.)

- **Did infant use a pacifier?**
  - (60) 1 □ Often
  - 2 □ Sometime
  - 3 □ Rarely
  - 4 □ No
  - If yes, was it ever dipped in: (61)
  - 1 □ Syrup
  - 2 □ Honey
  - 3 □ Other
  - 4 □ Nothing

- **Were infant's usual bowel movements?**
  - (62) 1 □ Two or more per day
  - 2 □ One per day
  - 3 □ Every other day
  - 4 □ Less than every other day

- **Illness prior to onset of present illness (infant botulism)?**
  - Yes 1
  - No 2
  - Unk 9
  - Age in weeks
  - Fever (>101°F) (63) □ □ □ □
  - Cold(s) (66) □ □ □ □
  - Constipation (71) □ □ □ □
  - (Mother's opinion)
  - Diarrhea (74) □ □ □ □
  - (Mother's opinion)
  - Other (77)

- **Did infant receive antibiotics prior to onset of present illness (Infant botulism)?**
  - Yes 1
  - No 2
  - Unk 9

- **Infant's Medical History (Prior to Onset of Infant Botulism)**

- **Age (in weeks)**
  - (79-80) (81) (82) (83)
  - (86-87) (88) (89) (90)
  - (93-94) (95) (96) (97)
  - (98-99)

- **Reason**
  - (84-85)
  - (86-87)
  - (88-89)

- **Drug**
  - (80-81)
  - (82-83)

- **Route**
  - (Oral, Parenteral or Both)
  - (84-85)
  - (86-87)

- **Duration (Days)**
  - (88-89)
  - (90-91)
  - (92-93)

- **Environmental History (Prior to Onset of Infant Botulism)**

- **Was there any construction, excessive dust, or environmental change around home from birth of infant until onset of present illness (Infant botulism)?**
  - Yes 1
  - No 2
  - Unk 9

- **If yes, describe (101)**

- **Was parent(s) involved in gardening or yard work from birth of infant until onset of present illness?**
  - Yes 1
  - No 2
  - Unk 9

- **If yes, describe (103)**

- **Did infant remain away from home for more than 1 week prior to onset of present illness?**
  - Yes 1
  - No 2
  - Unk 9

- **If yes, describe (105)**

### Symptoms of Present Illness (Infant Botulism)

- **Mother first noted infant was ill on**
  - (106-107)
  - (108-109)
  - (110-111)
  - (112-113)

- **First symptom**

  - (114)

- **Second symptom**

  - (115)

- **The initial visit to a physician was on**
  - (116-117)
  - (118-119)
  - (120-121)
  - (122-123)

- **Infant was hospitalized on**
  - (124-125)
  - (126-127)
  - (128-129)
  - (130-131)

- **Symptoms noted before patient hospitalized:**

  - **Yes** 1
  - **No** 2
  - **Unk** 9

  - **Weeks old**

  - **Constipation** (132)
    - (133-134)
    - (135-136)
    - (137-138)
    - (139-140)

  - **Poor feeding** (141)

  - (Symptoms cont'd on next page)
d) Symptoms noted before patient hospitalized (Cont'd)

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Yes</th>
<th>No</th>
<th>Unc</th>
<th>1</th>
<th>2</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altered cry</td>
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<tr>
<td>Irritable</td>
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<tr>
<td>Poor Head Control</td>
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<tr>
<td>General Weakness</td>
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<tr>
<td>Difficulty Breathing</td>
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<tr>
<td>Fever</td>
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<tr>
<td>Other</td>
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</tbody>
</table>

If infant had constipation, how many bowel movements were occurring? (149)

1. ☐ Two or more per day  2. ☐ One per day  3. ☐ One every other day  4. ☐ Two-three times per week
5. ☐ One per week  6. ☐ Less than one per week  7. ☐ Other

Interviewer(s) (150) 1. ☐ Mother  2. ☐ Father  3. ☐ Both  4. ☐ Other

Interviewer: (Name) ___________________________ Title (151) ___________________________

(Agency) (152) ___________________________ (Phone) ___________________________

Are there problems with this case history form (153)

1. ☐ Yes  2. ☐ No

If yes, describe ____________________________________________

__________________________

__________________________

__________________________

B. HOSPITALIZATION DATA (OBTAIN PRINCIPALLY FROM MEDICAL RECORD OR PHYSICIAN)

Hospital where diagnosis established ___________________________

Medical Record No. ___________________________

Name (154) ___________________________ Address ___________________________ Phone ___________________________

Primary Physician(s) ___________________________ Phone ___________________________

HOSPITAL DATA

<table>
<thead>
<tr>
<th>Mo.</th>
<th>Day</th>
<th>Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Date of first hospital admission (155-156) (157-158) (159-160)

Date of last hospital discharge (161-162) (163-164) (165-166)

Total days ___________________________ hospitalization (167-168)
<table>
<thead>
<tr>
<th>Symptoms and Physical Findings observed at any time during illness:</th>
<th>Yes</th>
<th>No</th>
<th>Unk.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of facial expression</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ptosis</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Extraocular muscle palsies</td>
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<tr>
<td>Pupils dilated</td>
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<tr>
<td>constricted</td>
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<td></td>
<td></td>
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<tr>
<td>sluggish pupil reactivity</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Trouble swallowing</td>
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<tr>
<td>Constipation</td>
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<td></td>
<td></td>
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<tr>
<td>Diarrhea</td>
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<td></td>
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<tr>
<td>Altered cry</td>
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<td></td>
<td></td>
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<tr>
<td>Weak sucking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muscle weakness</td>
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<td></td>
<td></td>
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<tr>
<td>Poor head control</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Upper extremities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower extremities</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>“Floppy”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knee Deep Tendon Reflex</td>
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<tr>
<td>Absent</td>
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<tr>
<td>Depressed</td>
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<tr>
<td>Somnolent</td>
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<td></td>
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<tr>
<td>Irritable</td>
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<td></td>
<td></td>
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<tr>
<td>Fever</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dehydration</td>
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<td></td>
<td></td>
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<tr>
<td>Respiratory difficulty</td>
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<td></td>
<td></td>
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<tr>
<td>Respiratory arrest</td>
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<td></td>
<td></td>
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<tr>
<td>Pneumonia</td>
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<td></td>
<td></td>
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<tr>
<td>Other</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Respiratory Assistance Needed</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen only</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Intubation</td>
<td></td>
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<td></td>
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<tr>
<td>Tracheostomy</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ventilator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infant feeding</td>
<td></td>
<td></td>
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<tr>
<td>Feeding tube</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of</th>
<th>Days</th>
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</thead>
<tbody>
<tr>
<td>(195-196)</td>
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</tr>
</tbody>
</table>

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### Treatment (Cont'd.)

<table>
<thead>
<tr>
<th>Antibiotics Given:</th>
<th>Oral or Parenteral</th>
<th>Dose (Gms/day)</th>
<th>Duration (days)</th>
<th>Date started (Mo, Day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(204)</td>
<td>(205)</td>
<td>(206-208)</td>
<td>(205-210)</td>
<td>(211-214)</td>
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<tr>
<td>(215)</td>
<td>(216)</td>
<td>(217-219)</td>
<td>(220-221)</td>
<td>(222-225)</td>
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<td>(226)</td>
<td>(227)</td>
<td>(228-230)</td>
<td>(231-232)</td>
<td>(233-236)</td>
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<td>(237)</td>
<td>(238)</td>
<td>(239-241)</td>
<td>(242-243)</td>
<td>(244-247)</td>
</tr>
</tbody>
</table>

Was antitoxin given? (248)  
1 Yes  2 No

If yes, give route of administration (249)  
1 I.V.  2 I.M.  3 Both

If yes, how many C.C. Total Connaught Adult 10cc/vial, Connaught Ped. 2cc/vial

Total cc (250-51)

Other specific therapeutic medication given: (252)

---

### Diagnostic Tests

Was a spinal tap done? (253)  
1 Yes  2 No  9 Unk.

Was spinal tap reported as normal? (260)  
1 Yes  2 No  9 Unk.

Spinal fluid protein ______ mgm% (261-263)

Total number of white cells ______ (264-266)

Was a Tension test done? (267)  
1 Yes  2 No  9 Unk.

If yes, results (274)  
1 Pos.  2 Neg.  3 Equivocal

Was an EMG (electromyography) done? (275)  
1 Yes  2 No  9 Unk.

If yes, was it interpreted as compatible or diagnostic of botulism? (282)

1 Yes  2 No  3 Not sure  9 Unk.

If EMG done, was BSA noted? (283)  
1 Yes  2 No  9 Unk.

Source of hospitalization data: (284)

1 Physician  2 Medical Record  3 Both  4 Other

Hospitalization section completed by:

Name ____________________________ Title (285) ____________________________

Agency (286) ____________________________ Phone No. ____________________________ Date ____________________________
### STOOL SPECIMEN(S)

<table>
<thead>
<tr>
<th>Date</th>
<th>Infant's Age (Wks)</th>
<th>Direct Toxin Assay</th>
<th>Enrichment Culture</th>
<th>Organism Isolated</th>
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</thead>
<tbody>
<tr>
<td>(286-294)</td>
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<td>(295-296)</td>
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<td>(300-305)</td>
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<td>(311-316)</td>
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<td>(317-318)</td>
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<td>(322-327)</td>
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<td>(328-329)</td>
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</tbody>
</table>

Date: [ ] [ ] [ ]

(333-338) of first negative follow-up specimen.

Were food, medications, or environmental samples tested? (339) 1 [ ] Yes 2 [ ] No 9 [ ] Unk.

If yes, list: (340) 

Samples positive for: (341) 1 [ ] Performed toxin 2 [ ] C. botulinum 3 [ ] Both 4 [ ] Neither

If any positive for toxin or organisms, please describe: (342) 

---

Specimen testing section completed by:

Name: ____________________________ Title: ____________________________

Agency: __________________________ Phone No.: __________________________ Date: __________________________

Patient outcome (345) 1 [ ] Improving 2 [ ] Recovered 3 [ ] Death

If patient died, date: [ ] [ ] [ ]

(346-351) 

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Form Reviewed and Submitted by:

Name: ____________________________ Title: ____________________________

Agency: __________________________ Phone No.: __________________________ Date: __________________________