CASE DEFINITION FOR ADRENAL SUPPRESSION

Report any new patient less than 18 years of age treated with any form of glucocorticoid (GC) therapy with evidence of adrenal suppression (AS) defined as:

- Adrenal crisis, an acute critical illness out of proportion in severity to the current illness and manifested by any of the following:
  - hypotension/shock
  - decreased level of consciousness/lethargy
  - unexplained hypoglycaemia or hyponatremia
  - seizure
  - death

OR

- Symptomatic* adrenal insufficiency with supportive biochemical evidence

* Signs/symptoms can include anorexia, weakness, fatigue, lethargy, fever, gastrointestinal symptoms (nausea, vomiting, constipation, diarrhea, abdominal pain), morning headache, hypoglycemia, myalgia, arthralgia, psychiatric symptoms, and growth failure.

Exclusion criteria

Adrenal insufficiency unrelated to GC therapy, including adrenocorticotropic hormone (ACTH) deficiency due to hypothalamic or pituitary gland abnormalities, and primary adrenal disorders, such as:

- Congenital adrenal hyperplasia
- Autoimmune adrenalitis or polyglandular syndromes
- Adrenal hypoplasia congenita
- ACTH resistance syndromes
- Metabolic disorders (adrenoleukodystrophy, peroxisome biogenesis disorders, cholesterol metabolism, mitochondrial disorders)
- Infectious disorders (sepsis, tuberculosis, fungal infections, viral infections)
- Infiltrative/destructive causes (hemorrhage, amyloidosis, sarcoidosis, metastases)
- Drugs inhibiting steroid biosynthesis (e.g., ketoconazole, etomidate, suramin, aminoglutethimide, metyrapone)

SECTION 1 – DEMOGRAPHIC INFORMATION

1.1 Date of birth: _____ / _____ / ________

1.2 Sex: Male ___ Female ___

1.3 Province/Territory of residence: ______________________

1.4 Ethnicity (check all that apply):
- First Nations ___ Innu ___ Inuit ___ Métis ___ Asian ___ Black ___ Caucasian ___
- Latin American ___ Middle Eastern ___ Other (specify) _____________________________
- Unknown ___

Month first seen _____________________________
SECTION 2 – UNDERLYING CONDITION

2.1 Condition requiring GC therapy:  Asthma ___  Malignancy ___  Nephrotic syndrome ___  
Inflammatory bowel disorder ___  Arthritis ___  Vasculitis ___  Other (specify) ______________________

2.2 Other medications (excluding GCs): ___________________________________________________________

2.3 Did the underlying condition cause a decrease in physical activity?  ___  ___  ___

2.4 Did the GC therapy cause a decrease in physical activity?  ___  ___  ___

2.5 Did the patient experience a weight gain on GC therapy?  ___  ___  ___

SECTION 3 – PAST GLUCOCORTICOID (GC) THERAPY

3.1 For each type of GC used in the patient’s treatment over the past year, please provide the following information:

<table>
<thead>
<tr>
<th>GC type (e.g., prednisone, fluticasone)</th>
<th>Route (e.g., oral, inhaler with nebulizer)</th>
<th>Dose* (mg/m², mg/kg or mcg)</th>
<th>Time(s) given (e.g., AM only; morning and evening, PM only)</th>
<th>Duration (e.g., x days, months, years)</th>
<th>End date DD / MM / YYYY</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

* If multiple GC doses, please provide as much detail as possible.

3.2 Last GC dose prior to presentation with AS:  Time _________  Date _____ /_____ /________

3.3 Total duration of past GC therapy:  ___ days  ___ weeks  ___ months  ___ years (indicate # of days, wks, etc.)

SECTION 4 – PRESENTATION OF ADRENAL SUPPRESSION

4.1 Patient seen for AS in (check all that apply):  office/clinic ___  emergency department ___  
inpatient ward/unit ___  neonatal ICU ___  paediatric ICU ___

4.2 Clinical presentation of adrenal insufficiency:  Adrenal crisis ___  Symptomatic adrenal insufficiency ___

4.3 Date of presentation:  _____ /_____ /________

4.4 Height: ____ cm  Weight ____ kg

4.5 Symptoms and signs at presentation

<table>
<thead>
<tr>
<th>Symptom/sign</th>
<th>Yes</th>
<th>No</th>
<th>Unknown</th>
<th>Improvement after treatment with GC?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypotension/shock</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decreased level of consciousness</td>
<td></td>
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<tr>
<td>Unexplained hypoglycemia</td>
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<tr>
<td>Unexplained hyponatremia</td>
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<tr>
<td>Seizure</td>
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<tr>
<td>Growth failure</td>
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</tr>
</tbody>
</table>

Non-specific symptoms, check all that apply:

weakness ___  fatigue ___  lethargy ___  anorexia ___  nausea ___  vomiting ___  abdominal pain ___  
myalgia ___  arthralgia ___  other (specify) ______________________________

4.6 General investigations at presentation

<table>
<thead>
<tr>
<th>Investigation</th>
<th>Result (units)</th>
<th>Normal value (units)</th>
<th>Not done</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
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<tr>
<td>Potassium</td>
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<tr>
<td>Other, specify:</td>
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</tr>
</tbody>
</table>
SECTION 5 – ADRENAL INVESTIGATIONS

5.1 Adrenal investigations at presentation

<table>
<thead>
<tr>
<th>Investigation</th>
<th>Date</th>
<th>Time (e.g., 8:00 am)</th>
<th>Results (units)</th>
<th>Normal value</th>
<th>Date, time and dose of last GC (mg/m² or mg/kg) prior to venipuncture</th>
<th>Not done</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cortisol</td>
<td>___ /___ /_____</td>
<td>DD MM YYYY</td>
<td>___ /___ /_____</td>
<td>DD MM YYYY</td>
<td>Type (HC/Dex)</td>
<td>Dose</td>
</tr>
<tr>
<td>ACTH</td>
<td>___ /___ /_____</td>
<td>DD MM YYYY</td>
<td>___ /___ /_____</td>
<td>DD MM YYYY</td>
<td>Type (HC/Dex)</td>
<td>Dose</td>
</tr>
</tbody>
</table>

5.2 ACTH stimulation test

5.2.1 Dose of cosyntropin given ____________

5.2.2 Peak cortisol response: value _____ units ______

5.2.3 Time of peak cortisol response ____________ (e.g., 30 minutes)

5.3 Other cortisol measurement:
Specify type (e.g., 24-hour urinary): _________________ value _____ units ______ normal value ______

SECTION 6 – MANAGEMENT OF ADRENAL SUPPRESSION

6.1 Treatment with GCs? (If no, skip to 6.2)  Yes ___ No ___ Unknown ___
If yes specify:
6.1.1 Was cortisol level drawn prior to treatment with GC at presentation? ____________
6.1.2 Time between presentation and first dose ____________
6.1.3 Type ____________ dose ____________ (mg/kg or mg/m²) frequency ____________
6.1.4 Was increased dosing for stress prescribed? ____________
6.1.5 Duration of GC therapy ____________ (days/weeks/months)
6.2 Other treatment: ____________
If yes, specify (e.g., IV fluid therapy) ____________
6.3 Referral to/consultation with paediatric endocrinologist? ____________

SECTION 7 – OUTCOME

7.1 Hospital stay: Total number of days ______ Days in intensive care unit ______ Still in hospital ______
7.2 Medical complications, please specify: ____________
7.3 Discharged home ___ Lost to follow-up ___ Deceased ___
If deceased, please specify cause of death ________________________

SECTION 8 – EVIDENCE OF NON-GC RELATED ADRENAL INSUFFICIENCY

8.1 Hyperpigmentation: Yes ___ No ___ Unknown ___
Other (specify) ____________

___ I agree to be contacted by the research team for further information.
___ I do not wish to be contacted by the research team for further information.

(OVER)
SECTION 6 – REPORTING PHYSICIAN

First name ___________________________ Surname ___________________________

Address ________________________________________________

City ___________________________ Province ___________________________ Postal code ___________________________

Telephone number ___________________________ Fax number ___________________________

E-mail ___________________________ Date completed ___________________________

Thank you for completing this form.

(AS 2010-04)