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26 May 2021

Ms Rachel Nicol
Coroner's Registrar
Coroner's Court of Victoria
65 Kavanagh St, Southbank VIC 3006

Via Email: cpuresponses@coronerscourt.vic.gov.au

Dear Ms Nicol

Coroner's case - Francis Stewart, Court Reference Number COR 2018 003515

I refer to your letter of 4 February 2020 to The Royal Australasian College of Physicians (RACP), regarding the investigation into the death of Francis J. Stewart. I would like to supplement the College's email of 9 July 2020 with this letter.

I am hereby noting the recommendations from the Coroner's Court of Victoria to the RACP in this case, specifically that the RACP - endocrinology:

60Bi. develop and distribute a guidance sheet for endocrinologists to advise them that when providing a 'stress cover letter' or 'sick day management letter' to a patient with adrenal insufficiency, that a copy should also be provided to the patient's treating general practitioner and the patient's family and/or carer;

60Bii. develop, implement, and promote an awareness campaign to remind and inform general practitioners and other health professionals about the risk of adrenal crisis, the nonspecific nature of symptoms and presentations preceding a crisis, and the importance of prompt recognition and treatment to reduce its associated morbidity and mortality.

The RACP has referred these recommendations to the Endocrine Society of Australia (ESA) as the peak body for this specialty of medicine, with the Society's agreement.

The ESA has subsequently advised the RACP that the recommendations will be implemented in the following ways:

Recommendation	Coroner's Court Response Category	Further information
B(i) develop and distribute a guidance sheet for endocrinologists to advise them that when providing a 'stress cover letter' or 'sick day management letter' to a patient with adrenal insufficiency, that a copy should also be provided to the patient's treating general practitioner and the patient's family and/or carer;	(a) The Coroner's recommendation has or will be implemented	The recommendation will be implemented after receipt of the Coroner's finding by way of: 1. Publication of letter in the Medical Journal of Australia in March 2021 (attachment 1). 2. Publication is available online and attached: https://pubmed.ncbi.nlm.nih.gov/33754356/

Recommendation	Coroner's Court Response Category	Further information
B(ii) develop, implement, and promote an awareness campaign to remind and inform general practitioners and other health professionals about the risk of adrenal crisis, the nonspecific nature of symptoms and presentations preceding a crisis, and the importance of prompt recognition and treatment to reduce its associated morbidity and mortality.	(a) The Coroner's recommendation has or will be implemented	The recommendation will be implemented after receipt of the Coroner's finding by way of: 1. A fillable form letter that can be downloaded and completed by doctors for patients is now available from the ESA's Hormones Australia website (attachment 2). 2. This letter is available online and attached: https://www.hormones-australia.org.au/wp-content/uploads/2020/09/Sick-Day-Management-ESA-Hormones-Australia-Standard-Letter-FINAL.pdf 3. ESA will work with RACGP/RACP to publicise this resource. The RACP will include information in its upcoming Adult Medicine Division ebulletin.

Please do not hesitate to contact adult.med@racp.edu.au should you require further information.

Yours sincerely

Peter McIntyre
Chief Executive Officer

Cc: Professor Bu Beng Yeap, President ESA, ijohnson@endocrinesociety.org.au

Attached
1. Sepsis and adrenal insufficiency: a potentially lethal combination
2. Adrenal Insufficiency Advice for Patients & Doctors: Sick Day Management for Patients on Glucocorticoid Therapy

Attachment 1.

Sepsis and adrenal insufficiency: a potentially lethal combination

To the Editor: The Coroners Court of Victoria made several recommendations in 2020 after a 38-year-old man died alone at home.[1] The cause of death was determined to be sepsis in the setting of an adrenal crisis.

The key coronial recommendations[1] were to emphasise to the general medical community the non-specific nature of symptoms of impending adrenal crisis (eg, fatigue, nausea, loss of appetite, vomiting),[2] to record the diagnosis of adrenal insufficiency prominently as an alert in medical records,[3] and to encourage endocrinologists to provide sick day or steroid stress dosing letters to patients, general practitioners, and family members and carers.

The Endocrine Society of Australia (ESA) endorses these recommendations. A standard patient letter has been developed and is now available on the ESA's Hormones Australia website.[4] We strongly support medical record alerts for the diagnosis of cortisol deficiency due to Addison disease or hypopituitarism.

It is crucial for doctors to have a high index of suspicion for the possibility of impending adrenal crisis in a patient with known adrenal insufficiency. The clinical syndrome evolves from acute adrenal insufficiency with symptoms of malaise, nausea and lethargy — all of which are non-specific and may be considered part of another pathological process — to adrenal crisis, which is associated with hypotension initially manifest by postural blood pressure falls greater than 20 mmHg.[2,3]

Prevention involves advice on stress dosing:[1] triple glucocorticoid dosing for 3 days (ie, the 3 × 3 rule),[2] parenteral hydrocortisone at home (SOLU-CORTEF Act-O-Vial, Pfizer) when unable to take tablets,[3] and the availability of personal alerts (eg, a MedicAlert bracelet [MedicAlert Foundation], a steroid card) when the person is delirious or very unwell (Box).

The incidence of adrenal crises is increasing in Australia.[3] Missed cases or failure to treat them because of overestimation of the risks of glucocorticoid therapy are unfortunately too common.

Competing interests: No relevant disclosures. ■

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References are available online.

Practical steps to reduce the risk of adrenal crisis

Ensure that others are aware of the diagnosis of established adrenal insufficiency	• Prominent medical alert in GP and hospital medical records • Patient carries either a steroid card, which lists diagnosis and glucocorticoid therapy, or uses a MedicAlert bracelet (MedicAlert Foundation) • A sick day or steroid stress dosing letter should be provided by the endocrinologist to the patient with adrenal insufficiency, with a copy to their GP • Encourage the patient with adrenal insufficiency to provide copies of the letter to their next of kin, close relatives or carer
Have a high index of suspicion for an impending adrenal crisis	• Beware of non-specific symptoms of nausea, vomiting or lethargy in a patient with established adrenal insufficiency
Prevent an adrenal crisis in patients with established adrenal insufficiency	• When unwell, follow the 3 × 3 rule (ie, three times the usual glucocorticoid dose for 3 days) and seek urgent medical attention if not improving
Promptly treat an impending adrenal crisis	• The patient and/or carer should be trained to administer 100 mg SOLU-CORTEF Act-O-Vial (Pfizer) intramuscularly* if vomiting occurs or the patient is unable to swallow tablets

GP = general practitioner. * Some authorities recommend the off-label use of a subcutaneous injection as this is easier for patient and/or carer to administer. ◆

1 Coroners Court of Victoria. https://www.coronerscourt.vic.gov.au/sites/default/files/2020-02/FrancisJohnStewart_351518.pdf (viewed Aug 2020).
2 Hahner S, Spinnler C, Fassnacht M, et al. High incidence of adrenal crisis in educated patients with chronic adrenal insufficiency: a prospective study. *J Clin Endocrinol Metab* 2015; 100: 407–416.
3 Rushworth RL, Torpy DJ, Falhammar H. Adrenal crisis. *N Engl J Med* 2019; 381: 852–861.
4 Endocrine Society of Australia. Adrenal insufficiency advice for patients and doctors: sick day management for patients on glucocorticoid therapy. https://www.hormones-australia.org.au/wp-content/uploads/2020/11/Sick-Day-Management-Plan-FINAL-fillable.pdf (viewed Aug 2020). ■

Attachment 2.

Adrenal Insufficiency Advice for Patients & Doctors

Sick Day Management for Patients on Glucocorticoid Therapy

ESA recommends two (2) copies of this form be provided to the patient: one for them to keep and the other to give to their partner/next of kin. A copy should also be sent to the patient's GP.

Name……DOB……

Diagnosis……

Contact details of usual public hospital OR private endocrinologist

……

……has a form of **adrenal insufficiency.**
Replacement medications will keep them well, but at times of **illness or other stress to the body**, they are at risk of **adrenal crisis**. Unless additional glucocorticoids are given at these times, they could become very unwell. This is a simple guide about what to do in such situations. If there is any doubt or concern about their health, their endocrinologist or their usual hospital's Endocrinology Department should be contacted for further specific advice.

	Usual Dose		
	AM	Mid	PM
Tablet Name:	mg	mg	mg

Issue	**Examples**	**Temperature**	**Dose Change[1]**	**Adjusted Dose**		
				AM	**Mid**	**PM**
Trivial illness or emotional stress	Mild cold, Exam stress, Bereavement	No temperature, able to complete usual daily activities and physically well	Usually **NO** change (advice may be varied at the discretion of the endocrinologist)	mg	mg	mg
Mildly unwell	A fever, Urine infection	37.5 – 38.5^0 C	2 x normal dose for at least 2 days	mg	mg	mg
More unwell	High fever, Diarrhoea	Above 38.5^0 C	3 x normal dose for at least 3 days	mg	mg	mg
Vomiting or persistent diarrhoea		Normal or raised	***Hydrocortisone Injection*** is required either by self-injection (e.g. 100 mg Solu-Cortef Act-o-Vial™)[2], a GP or an Emergency Department as soon as possible. After receiving the injection, the person should then proceed to the nearest Emergency Department for further treatment. If unable to access this treatment, call 000 and request an urgent ambulance.			

[1] If the person is still unwell despite following the suggested dose changes, they should seek immediate medical attention.
[2] Ensure the self-injected Solu-Cortef Acto-o-Vial has not expired.

Acknowledgement: Modified from material initially developed by Julie Hetherington and Prof Kate Steinbeck (Royal Prince Alfred Hospital), and material from Prof David Torpy and Carmen Bischoff (Royal Adelaide Hospital).

Additional important points:

- Always seek medical advice early if you become ill, so the cause can be established, and any necessary treatment started
- **Once the illness is over, the usual dose of hydrocortisone, prednisolone or cortisone acetate can be resumed after gradually reducing the dose over a few days**
- There is no need to adjust the dose of other medications that are taken unless advised by your doctor
- Keep a record of the extra doses so this can be discussed with your specialist at the next appointment.
- A MedicAlert® bracelet or pendant should always be worn
- Always tell any doctors what medication you take

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Recommended Medication Requirements for Procedures in Patients with Adrenal Insufficiency

TYPE OF PROCEDURE	PERI-PROCEDURE NEEDS	POST-PROCEDURE NEEDS
Major surgery with long recovery time *e.g., cardiothoracic surgery, oesophagectomy, Whipple's procedure*	50 mg hydrocortisone IV with induction (at time anaesthesia commenced)	Hydrocortisone 50 mg IV every 8 hours for 24 hours. Taper to normal dose over 2-3 days, or longer depending on individual progress
Moderate surgery *e.g., open cholecystectomy, total joint replacement, hysterectomy, caesarean section, dental surgery under general anaesthesia*	50 mg hydrocortisone IV with induction	Hydrocortisone 25 mg IV 8-hourly for 24 hours. Usually then return to normal oral dose, depending on individual progress For day case dental surgery, double oral dose for 24-48 hours
Minor procedures *e.g., cataract surgery, hernia repairs, gastroscopy*	50 mg IV hydrocortisone at commencement of procedure	Double oral dose for 24-48 hours after surgery
Labour and vaginal birth	25 mg hydrocortisone IV at onset of labour, then every 6 hours until delivery 50 mg IV at time of delivery	Double oral dose for 24-48 hours after delivery
Invasive bowel procedures requiring laxatives *e.g., colonoscopy, barium enema*	Double the usual oral doses of steroid during the bowel preparation phase 50 mg IV hydrocortisone at time of procedure	Double oral dose for 24-48 hours after procedure

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