MeNZ*Medical*

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New Zealand Professional Firefighters Union
Medical Review

Dr Jane Smith
Example Medical Centre
1 Example Avenue
City Centre
City 1111

Date of Assessment	01/01/2019
Examiner	Dr Lewis Ball
ACC Number	N/A
Date of Injury	N/A
Copy to GP	Y
Copy to Patient	Y

Dear Mr Brown

Re Mr John Brown
123 Fake Street
Suburbia
Townsville 1111

NHI Number	ABC123
DOB	01/01/1950
Gender	Male

This is an advisory document regarding a medical assessment for the above named patient with regards to health risks associated with exposure to occupational hazards in firefighting.

The information contained in this report has been primarily derived from the World Health Organization International Agency for Research on Cancer Volume 98 on Firefighting.

Though this information is based on extensive research current data is limited given that it cannot fully account for the variation in risk based on differences in exposure history, genetic history, age, sex, geographic location and time period. The elevated risks compared to the general population outlined in this report represent a 'worst case' scenario based on current data with it remaining possible, particularly for rarer conditions, that the available findings represent statistical chance rather than elevated risk.

It is advised that the patient read this assessment and follow the recommendations as outlined. If the patient or any healthcare practitioner desire further explanation regarding anything in this report please contact MeNZ Medical.

Social History
Patient is an ex-smoker having quit in 1992 with a 20 pack-year history and reports EtOH intake of 6 units per week.

Family History
Father deceased age 100 with myocardial infarction. Mother deceased age 110 with bowel cancer. Patient has a brother aged 80 who is well and a sister aged 70 who had breast cancer diagnosed age 60. Patient has two sons aged 20 and 30 who are well.

Presentation
Mr Brown was noted to have been seen previously for 'Fire & Emergency New Zealand Medical Review' by MeNZ Medical on 1st January 2010, 1st January 2013 and 1st January 2016. He was seen alone in clinic on 1st January 2019.

Systems Review

Cardiac & circulation	No issues with chest pain, palpitations or unusual shortness of breath.
Respiratory & breathing	Reports persistent cough improved with use of nasal spray but has not been using recently with return of cough.
Gastrointestinal	No issues with appetite, nausea or abdominal pain. Bowel motions improved to once daily Bristol type 4 with psyllium husk but when not using consists of periods of constipation of up to four days followed by passage of Bristol type 2 bowel motions then several loose bowel motions.
Genitourinary	Nocturia can be up to thrice nightly if has fluid intake in the hours before bed.
Sexual function	No current concerns.
Neurological	Reduced sensation in toes stable.
Visual	Currently stable.
Ears, nose & throat	Noted gradually declining hearing acuity.
Musculoskeletal	Lower back pain currently stable.
Skin	No current concerns.
Psychological	No current concerns.
Sleep habit & snoring	Sleep latency usually less than 15 minutes, with sleep period of 6-11 hours without interruption.
Weight changes	No current concerns.
Infectious issues	No current concerns.

Measurements

Weight	88kg (96kg on 1st January 2010)
Height	188cm
Waist measurement	90cm
Body mass index	24.9kg/m2
Pulse rate	65bpm, irregular (known sinus arrhythmia)

Blood pressure	118/68 (108/68 on 1st January 2016)
Peak flow	425L/min (410L/min on 1st January 2016)
Vital capacity	4.2L (108% predicted)
Expiratory volume	3.1L (82% predicted)
FEV1/FVC	0.82
Right eye visual acuity	6/9-1 (6/6-1 on 1st January 2016)
Left eye visual acuity	6/12 (6/6 on 1st January 2016)
Bilateral visual acuity	6/9+2 without corrective lenses (6/6 on 1st January 2016)

Examination

Cardiac & circulation	Heart sounds dual with no added sounds. No carotid bruits. No peripheral oedema. Dorsalis pedis & posterior tibial pulses readily palpable. Capillary refill time less than three seconds at hallux bilaterally.
Respiratory & breathing	Chest clear to auscultation & resonant to percussion.
Gastrointestinal	Abdomen soft & non-tender. No apparent organomegaly. Normal bowel sounds. 45mm umbilical hernia, non-tender, noted.
Genitourinary	Unremarkable external genitalia, foreskin & testicles to palpation. Prostate enlarged but otherwise unremarkable to palpation.
Neurological	Normal gait & co-ordination.
Ears, nose & throat	Unremarkable oropharynx & nares.
Musculoskeletal	Satisfactory range of motion.
Skin	Onychomycosis affecting hallux nails and mild tinea corporis on buttocks. Loss of hair on feet.
Lymphatics & endocrine	Thyroid unremarkable to palpation. No apparent axillary, inguinal, supraclavicular, cervical or submandibular lymphadenopathy.

Investigation Results

Investigation	Result	Date
Haemoglobin	158g/L (130-175)	01/01/2019
Mean cell volume	824L (80-99)	01/01/2019
Mean cell haemoglobin	29pg (27-33)	01/01/2019
Platelets	183x10^9/L (150-400)	01/01/2019
White blood cells	6.3x10^9/L (4.0-11.0)	01/01/2019

Creatinine	78 micromol/L (50-110)	01/01/2019

Total bilirubin	9 micromol/L (2-20)	01/01/2019
ALP	115U/L (30-150)	01/01/2019
GGT	15U/L (10-50)	01/01/2019
ALT	17U/L (0-40)	01/01/2019
AST	13U/L (10-50)	01/01/2019
Total protein	72g/L (64-83)	01/01/2019
Albumin	40g/L (32-48)	01/01/2019
Globulin	32g/L (25-41)	01/01/2019

Serum iron	21 micromol/L (10-30)	01/01/2019
Transferrin	2.2g/L (2.0-3.5)	01/01/2019
Transferrin saturation	38% (16-50)	01/01/2019
Ferritin	156 micrograms/L (20-500)	01/01/2019

Prostate specific antigen	2.1 micrograms/L (0.0-3.9)	01/01/2019

IgG	7.2g/L (6.0-16.0)	01/01/2019
IgA	1.2g/L (0.8-3.0)	01/01/2019
IgM	1.0g/L (0.4-2.5)	01/01/2019
Serum electrophoresis	Unremarkable	01/01/2019
Fasting glucose	4.2mmol/L (3.5-6.0)	01/01/2019
HbA1c	32mmol/mol (20-40)	01/01/2019

Fasting cholesterol	4.4mmol/L HH	01/01/2019
Triglyceride	2.2mmol/L HH	01/01/2019
HDL	1.03mmol/L	01/01/2019
LDL	2.4mmol/L HH	01/01/2019
Cholesterol / HDL ratio	4.3 HH	01/01/2019

TSH	2.5mIU/L (0.40-4.00)	01/01/2019
CRP	1mg/L (<5)	01/01/2019

Urine dipstick	Unremarkable	01/01/2019

Assessment
The following is a list of conditions for which firefighters may be at elevated risk (risk is expressed compared to the general population of 1.0, for example 2.0 indicates a doubled risk) and whether findings in clinic indicate the need for further management.

Cancer Conditions

Medical Condition	Risk Elevation	Further Management Indicated
Brain cancer	5.0	No
Lung cancer	1.2	No
Asbestosis with or without mesothelioma	1.5	No
Oral & oesophageal cancer	2.0	No
Stomach cancer	2.0	No
Pancreatic & biliary cancer	2.2	No
Colorectal cancer	3.6	No
Renal cancer	4.9	No
Bladder & ureter cancer	4.5	No
Testicular cancer	4.1	No
Prostate cancer	2.6	No
Male breast cancer	7.4	No
Skin cancer including melanoma	2.9	No
Lymphoma	2.0	No
Leukaemia	2.6	No
Multiple myeloma	10.0	No
All cancer	1.2	No

Non-Cancer Conditions

Medical Condition	Risk Elevation	Further Investigation Indicated
Cardiovascular disease	1.2	Yes
Motor neuron disease	2.0	No
Hepatic cirrhosis	2.3	No

Further Investigations
1. Lung cancer screening for patients over age 50 with a history of significant smoke exposure may result in up to 20% reduced mortality however this has only been demonstrated in cigarettes smokers of 30 years or more and the applicability to firefighters has not been proven. A typical lung cancer screening program would consist

of low-dose CT-chest once a year. At the present time Canterbury DHB does not fund screening CT-chest and the cost in private is approximately $572.

2. Stomach cancer screening for patients over age 50 may result in up to 50% reduced mortality however this has only been demonstrated in high-risk subgroups such as those of Japanese descent and the applicability to firefighers has not been proven. A typical stomach cancer screening program would consists of gastroscopy once every three years. At the present time Canterbury DHB does not fund screening gastroscopy. The cost of screening gastroscopy in private is approximately $1200.
3. Bowel cancer screening for patients over age 50 results in approximately 30% reduced mortality with the most typical options being either colonoscopy once every ten years or CT-colonography once every five years until the patient is 75. At the present time however Canterbury DHB does not fund screening colonoscopy for those not at increased risk (the most common criteria for publicly funded screening being either a first-degree relative diagnosed with bowel cancer prior to age 55 or two first-degree relatives diagnosed with bowel cancer at any time). The cost of screening colonoscopy in private is approximately $1700 and if this is able to be met patients are encouraged to seek this in the private sector.
4. A one-off abdominal aortic ultrasound for aneurysm screening at age 65 is advised for all patients as part of on-going health surveillance. This service is not currently publicly funded and can be sought in private at a cost of approximately $279.
5. Though other investigations exist which may identify other cancers, such as MRI-brain for brain tumours or magnetic resonance cholangiopancreatography for pancreatic cancers these are only useful for patient who have symptoms suggestive of disease and have not been shown to be useful for screening purposes.

Medical Management

1. Mr Brown is advised to discuss his cardiovascular disease management with the healthcare provider of his choice (this may be with his usual GP or he may seek more in depth evaluation with MeNZ Medical).
2. Patient is advised to seek annual assessment with either MeNZ Medical or another GP for review of his cardiovascular risk factors and any other issues which may impact his long-term health.

Yours sincerely

Dr Lewis Ball
MeNZ Medical
912 Colombo Street, Christchurch, 8013