



Newsletter.

July 2005

Test Information:

Dr Kerry DeVoss

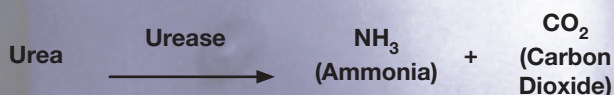
Carbon-14 Breath Test for Helicobacter Pylori

QML Pathology offers a carbon-14 breath test for the detection of Stomach Urease activity, as a marker of colonisation of the gastric mucosa by the organism Helicobacter pylori.

This technique involves swallowing a watery solution containing a low dose (0.9 μCi) of ^{14}C labelled urea. The bacterial urease releases $^{14}\text{CO}_2$ from this solution and it is detected as a low energy β emission in breath CO_2 . The radiation exposure from this test is less than 1% of that received from an upper gastrointestinal series and is theoretically equivalent to half the dose received flying between Sydney and Brisbane.

The high sensitivity of this test, combined with the ease of specimen collection, makes this an ideal follow-up test for monitoring the eradication of Helicobacter pylori from the gastric mucosa.

BACKGROUND



Helicobacter pylori produces large amounts of urease, an enzyme which allows the organism to buffer the high levels of surrounding hydrogen ions by the production of ammonia and bicarbonate. This enzyme appears to be an important virulence factor for Helicobacter pylori, allowing the organism to survive in the acidic gastric environment.

Dr Kerry DeVoss FRCPA

Pathologist in Charge - Endocrinology
(07) 3840 4412
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A graduate of the University of Queensland in 1973, Dr DeVoss trained in chemical pathology at Royal Brisbane Hospital.

After a period working in central Queensland, Dr DeVoss joined QML Pathology as Pathologist in Charge of the Redcliffe Laboratory. He then moved to the central Brisbane Laboratory and became Pathologist in Charge of Biochemistry. Over the past twelve years he has also acted in the role of Visiting Pathologist, supervising the operation of the Gladstone (1985-1993) and Darwin (1993-1996) Laboratories. Dr DeVoss is currently the Pathologist in Charge of Endocrinology.

Urease is not present in mammalian tissues unless there is bacterial colonisation, so the presence of abundant urease in the stomach is diagnostic of Helicobacter pylori infection. Some oral bacteria may also produce urease, however this effect can easily be allowed for by following the time-course of $^{14}\text{CO}_2$ production. By 20 minutes after ingestion of the last dose, the production of labelled CO_2 reflects only the activity of the gastric flora, with no significant contribution from oral bacteria.

TEST DETAILS

Fasting for 2 hours prior to the test is required to minimise any dilution of the ^{14}C -urea, and to permit the greatest amount of contact with the gastric mucosa.

We routinely collect a breath sample into a glass vial containing a CO_2 trapping liquid. After 20 minutes the activity of the trapped CO_2 is then determined using a β -counter.

Results are then reported as positive or negative. Studies have reported excellent separation

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Also in this issue:

Ordering Added Tests

Introducing the newest Members of our Pathology Team

Dr Lalitha Gupta - Cairns

Dr Lydia Pitcher - Brisbane

Anti-D Update

▶ between affected patients and negative controls. In a negative patient, the extra counts of this test are only $\frac{1}{10}$ of the natural background at that energy level (the basis of the carbon dating technique). The natural abundance is approximately 1 in a trillion carbon atoms.

Cost: \$71.75 (rebate \$61.00)

This test is available in all QML Pathology clinics, however it is necessary to arrange an appointment prior to the test. Results are available the next day.

MEDICARE RESTRICTIONS (ITEM 12533)

Benefits are only payable where one of the clinical indications is specified in writing.

To monitor the success of eradication of *Helicobacter pylori* in patients with duodenal ulcer, where testing is performed at least one month after completion of the eradication treatment.

To confirm *Helicobacter* colonisation when:

- Suitable biopsy material cannot be obtained for the diagnosis at endoscopy in patients with peptic ulcer disease or when diagnosis of duodenal ulcer has been made on barium meal.
- In patients with a history of ulcer or gastric neoplasia when endoscopy is not indicated.

For further clarification or information on this test please contact Dr Kerry DeVoss on (07) 3840 4412.

INFORMATION CURRENT AS OF JULY 2005

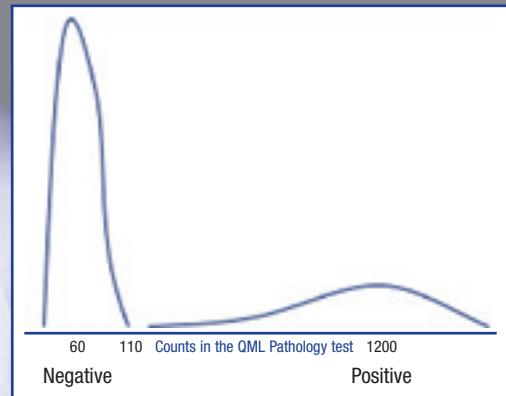


Figure 1: CO₂ levels presented from carbon-14 breath test for positive vs negative patients.

Ordering Added Tests

In order to enhance our added test service, QML Pathology offers both email and fax alternatives for ordering additional tests to the original ones outlined on the patient's request form. These options offer a time efficient means to deal with your patient follow-up.



Email it:

Requests for additional testing can be emailed to addedtests@qml.com.au. The following information must be listed in the email:

- Patient Surname
- Given Name(s)
- Date of Birth
- QML Pathology Laboratory Number relevant to the original specimen. This will be included on any issued reports and is recognised as a seven digit number following the current year prefix, eg. 05-1234567.
- Additional tests requested

In order to comply with HIC regulations, a confirmation form will be sent to you for your signature.

Time limit for ordering:

Due to the time-critical nature of testing and limits to storage capabilities, most samples are only stored for seven days after completion of testing, however there are some specimens which do not comply with this timeline. Serological test samples may be stored for extended periods to assist assessment of seroconversion. The instability of some analytes may mean a sample that is several days old will be unsuitable for analysis.

With heavy time constraints on your working week, we anticipate fax or email, rather than phoning, will assist in making the added testing process quicker and easier for you, the referring practitioner.

For any queries regarding this process please contact your local Medical Liaison Officer or the Added Tests Department at your local laboratory.



Fax it:

By using the fax form available on the QML Pathology internet site, www.qml.com.au, or obtaining a copy through your local Medical Liaison Officer, you can order additional tests without filling out a second request form. All that is required is for you to complete the form and sign it prior to faxing back to our Added Tests Department. This form can also be downloaded in an electronic format (Microsoft Word) if you would prefer to type rather than hand-write the details, however the signature must be hand-written.



Dr Lalitha Gupta

FRCPA
Consultant Pathologist, Cairns
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After graduating from the University of Delhi in 1966, Dr Gupta started Pathology in Michael

Reese Hospital University of Chicago U.S.A. Dr Gupta obtained her FRCPA in Australia through the Royal College of Pathologists of Australasia in 1986. She has worked as an anatomical pathologist for the past 22 years, most recently at Mansfield Pathology and Sydney Diagnostic, while also holding a variety of academic positions including lecturing and tutoring in pathology. She has had a variety of articles published in medical journals world wide and maintains a strong interest in Anatomical Pathology. Dr Gupta commenced her role as a Consultant Pathologist at QML Pathology in April 2005 working within our Cairns Laboratory.

Past Appointments

Anatomical Pathologist

- Staff Specialist Liverpool Hospital
- Mansfield Pathology & Sydney Diagnostic Services
- Standard Laboratories and St Margaret Hospital

Lecturing in Pathology

- University of Sydney, University of New South Wales

Associations

- Member of Australian Cytology Society
- International Academy of Pathologists

Special Interests

- Member and fellow of International Cytology Society
- Anatomical Pathology

Dr Lydia Pitcher

MBBS(Hons) BMedSc FRACP FRCPA
Consultant Haematologist, Brisbane
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Dr Pitcher graduated from Medicine at the University of Queensland in 1987, having interrupted her studies

to complete a Bachelor of Medical Science in 1986. She entered joint specialist training in Paediatrics and Haematological Pathology at the Royal Brisbane and Mater Hospitals. Dr Pitcher completed her training in London, at the Hospital for Children, Great Ormond Street under the direction of Professor Ian Hann. Dr Pitcher has worked as a consultant in Paediatrics and Haematology in Brisbane, and has recently returned following five years as Haematologist/Oncologist and Transplant Physician at the Starship Children's Hospital and Labplus in Auckland, New Zealand.

Past Appointments

Consultant Haematologist/Oncologist

- Starship Children's Hospital, Auckland, NZ
- Visiting Haematologist/Oncologist
- Royal Brisbane and Children's Hospitals, Brisbane
- Mater Hospital, Brisbane

Honorary Lecturer

- Department of Paediatrics, University of Auckland

Senior Lecturer

- Department of Paediatrics and Child Health, University of Qld

Associations

- Australian and New Zealand Children's Haematology Oncology Group (ANZCHOG)
- Children's Oncology Group (COG)

Special Interests

- Leukaemia and Stem Cell Transplant
- Haemophilia and Coagulation Disorders
- Paediatric Thrombosis
- Thalassaemia and Haemoglobinopathies
- Neonatal Haematology
- Iron deficiency

Important Notice Regarding Childhood Vaccination Distribution

QML Pathology has operated in partnership with Queensland Health since 1993 to distribute childhood vaccines throughout Queensland, however we will no longer be providing this service on their behalf. From 1 July 2005, Queensland Health vaccine orders are being distributed by CSL Ltd not QML Pathology, however we will continue to distribute private vaccines to practitioners across Queensland and northern New South Wales.

As a result of the previous contract, QML Pathology has acquired unique knowledge and comprehensive experience in the correct distribution of vaccines, giving us the ability to offer a service that has become a benchmark in the vaccination industry. We would like to assure our referring practitioners that QML Pathology will continue to distribute private vaccines to General Practitioners, Councils, Hospitals and other relevant businesses. The sale of private vaccines has always been the larger part of the service we offer clinicians and our purpose built, state of the art facility has ISO 9002 accreditation which ensures vaccinations are quality controlled for an effective immunisation.

We would like to acknowledge the support of the practitioners to whom we have distributed vaccines over the past 12 years and hope that we can continue to meet your private vaccine needs in the future.



Doctors' Notice Board

Dr Naveen Dwivedi and the Logan Heart Centre would like to announce that they are moving premises. As of July 25 they will operate out of their new rooms at

Suite 5/11 Logan Downs Drive, Meadowbrook.

Dr Dwivedi's new telephone number will be (07) 3200 7377 while the Heart Centre can be reached on (07) 3200 7355.

Anti-D Update

With the introduction of prophylactic anti-D during pregnancy (refer May-04 Newsletter), a large number of anti-D antibodies are being detected. By inclusion in the clinical notes, that a patient has been given anti-D (the date it was given can also be advantageous), sample processing and result turnaround can be greatly improved. The testing process for anti-D determination is much shorter and less complex if scientific staff have the clinical information that an injection has been given prior to testing.

July/August Events...

Greenslopes Private Hospital CPD Evening – Chronic Fatigue

Date: 27th July
Venue: Greenslopes Conference Room,
Newdegate Street, Greenslopes
Topic: "Doctor, I'm tired." A look at some of the
medical causes for Chronic Fatigue
Contact: Taren King Koi
Phone: (07) 3394 7190

AMAQ Health and Lifestyle Expo

Date: 29th-31st July
Venue: Brisbane Convention and Exhibition Centre
Contact: AMAQ
Phone: (07) 3872 2220

St Andrew's Heart Institute CPD Weekend

Date: 30th-31st July
Venue: Palazzo Versace, Gold Coast
Topics: Cardiac Surgery, Cardiology and Cardiac
Related Issues in General Practice
Points: 30 Category 1
Contact: Julie Coningham
Phone: (07) 3834 4293

Sunnybank Private Hospital CPD Weekend

Date: 13th-14th August
Venue: Radisson Resort, Gold Coast
Topics: ECG, Lymph Node Biopsy, Shoulder
Injuries, Skin Cancer, Prostate Cancer &
Female Stress Incontinence
Contact: Victoria Colley
Phone: (07) 3344 9430

COLLECTION CENTRE NEWS

For the convenience of our doctors and patients, we have listed the latest additions and changes to QML Pathology's network of clinics:

NEW CLINIC

Grange (07) 3352 7612

Shop 6a,
197 Days Road (cnr Grange Road)
Mon – Fri 8.00am - 12.30pm
1.00pm - 4.00pm

CLINIC CHANGES

Brisbane City (07) 3832 8856

Ground Floor, Wickham House
157 Wickham Terrace
Mon – Fri 7.00am - 11.30am
12noon - 5.00pm

Springwood (07) 3808 5900

Relocated to:
Shop 4, Arndale Shopping Centre
17-27 Cinderella Drive
Mon – Fri 7.30am - 6.00pm
Sat 8.00am - 12noon

Arana Hills (07) 3351 4255

20 Nepean Ave
Mon – Fri 7.30am - 1.00pm
1.30pm - 5.00pm
Sat 8.00am - 12noon

Indooroopilly (07) 3378 5215

Day & Night Medical Centre
66 Station Road
Mon – Fri 7.00am - 12.30pm
1.00pm - 5.00pm
Sat 8.00am - 12noon



This newsletter has been prepared and published by QML Pathology for the information of referring doctors. Although every effort has been made to ensure that the newsletter is free from error or omission, readers are advised that the newsletter is not a substitute for detailed professional advice.

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