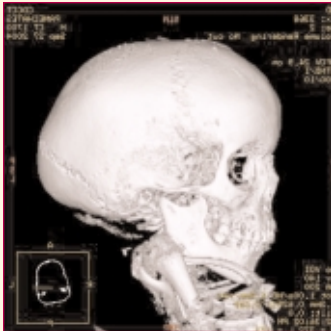


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access

What's New at Canada Diagnostic Centres?

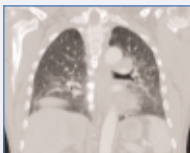
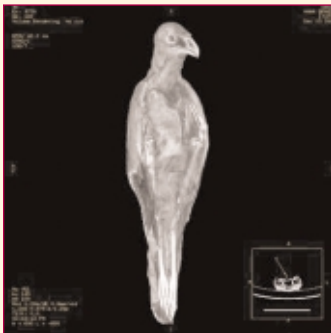


Computed Tomography for Mummies

In September 2004, using CT technology, Canada Diagnostic Centres helped unravel the mystery behind Vancouver Museum's resident mummy Panechates. Museum conservator Carol Brynjolfson hoped to determine the cause of death of the mummified boy who died at approximately age 10 around 300AD.

Our CT technologist, Dean Malpas, performed the scan on Panechates using our 8-detector CT scanner and was able to do a complete examination of the mummy within minutes. The results showed a severe skull fracture and broken legs. Dr. Audrey Spielmann, a radiologist at Canada Diagnostic Centres said it is likely young Panechates died as the result of an accident.

The ability of a CT scan to help tell stories of the past is so powerful that the museum came back for a second appointment in December 2004. This time, Carol brought a mummified cat, crocodile and hawk, all of which pre-date Panechates and have significant roles in Egyptian history. A team from the Discovery Channel was on hand to document the scans for a feature on mummies and the CT technology used.



Lung Cancer Screening improves Survival Rates

The latest results from the *International Early Lung Cancer Action Project* (I-ELCAP) show that CT based lung screening can find the disease early enough to improve survival rates.

Current five year survival rates for lung cancer that is detected without screening are only about 5 – 10%. This low survival rate is due to the fact that by the time most lung cancers are found, they have metastasized.

The good news from I-ELCAP is that survival rates increase to 76-78% when screening of asymptomatic patients detects a cancer. Researchers are finding that 80% of lung cancers found through screening are stage 1 lesions with no lymph node metastases.

The news gets even better when Stage 1 lesions are excised. *The eight year survival rate increases to 95%.*

Another interesting finding is that the rate of developing lung cancer stays steady for about 19 years after a smoker quits then drops by half at year 20.

I-ELCAP is a worldwide screening project that was started in 1993. To date, over 27,000 screening CTs have been performed.

For more information visit www.ielcap.org.

Health News Flash

An Apple a Day Keeps the Doctors Away

A recent study by researchers at Cornell is proving the old adage to be true. The antioxidant quercetin is found in highest levels in the skins of apples when compared to other fruits and vegetables. Rat brain cells treated with quercetin experienced the least cell damage compared to those treated with vitamin C (a well-known antioxidant) or untreated. The cells were exposed to hydrogen peroxide which creates the type of oxidative cell damage similar to that found in patients with Alzheimer's disease.

Heo HJ, Lee CY. Protective Effects of Quercetin and Vitamin C Against Oxidative Stress-Induced Neurodegeneration. *J. Agric. Food Chem.*; 2004; 52(25): 7514-7517.

Healthy Heart Diet

A new study using mathematical models has allowed researchers to create a diet that could potentially reduce cardiovascular problems by 76% and add years to people's life. The diet is referred to as the "Polymeal" and features well-documented heart beneficial foods such as almonds, garlic, fish, wine, dark chocolate, fruits and vegetables. For maximum benefit, all ingredients should be incorporated into daily meals in the recommended amounts. Some examples include 150 milliliters of wine, 100 grams of dark chocolate, 400 grams of fruits and vegetables everyday, and fish four times a week.

Franco OH, Bonneux L, de Laet C, Peeters A, Steyerberg EW, Mackenbach JP. The Limits of Medicine. *BMJ* 2004; 239: 1447-1450.

Hepatitis B Virus & Asian-Canadians

It has been recognized by the American Liver Foundation that Asian Americans suffer from Hepatitis B virus (HBV) more than any other racial or ethnic groups in the United States. It would not be inappropriate to draw a parallel to the population in Canada, where approximately 8% are Chinese, South Asian and Filipino (Canada Census 2001).

HBV is wide spread in countries in Asia, where many of the affected are unaware of their own conditions. Due to the lack of notable signs or symptoms, carriers of the virus unknowingly pass on the virus to others, creating a large population susceptible to future cirrhosis, liver failure and liver cancer.

Screening of high risk individuals is important. Diagnosed carriers with rising or high alpha-fetoprotein levels and inconclusive ultrasound may benefit from a CT or MRI scan to help confirm any suspicions.



The Benefits of Breast MRI

A recent Canadian study led by Dr. Ellen Warner, a medical oncologist with the Toronto Sunnybrook Regional Cancer Centre in Toronto showed that MRI was the most accurate method for detecting the presence of cancer in high risk women.

The study involved 236 women between the ages of 25 and 65 who all carried the gene mutation for breast cancer. Different combinations of screening methods were used to assess the participants and a total of 22 cases of cancer were detected.

The following is a breakdown of detection rate by methods. (Note that some cancers were caught by more than one method):

• MRI	77% (17)
• Mammography	36% (8)
• Ultrasound	33% (7)
• Clinical breast exam	9.1% (2)

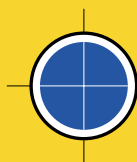
When all four screening tools are used, *95% of cancers were detected*, compared to 45% for mammography and clinical breast exam combined, and 64% for mammography, clinical breast exam and ultrasound combined.

The benefits of breast MRI include effectiveness in:

- Pinpointing the location and size of breast abnormalities.
- Assessing the presence of breast cancer when other diagnostic imaging studies have been inconclusive.
- Evaluating the size and extent of known cancer to aid in treatment options.
- Tracking a tumor's response to chemotherapy.

The strengths of breast MRI make it an appropriate tool for women with high risk (gene mutation, strong family history), breast implants, or those currently diagnosed with breast cancer. Canada Diagnostic Centres has been offering breast MRI to appropriate patients for over 18 months.

For more information on breast MRI, please contact Shelley James at 1-877-709-8522.



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