

Reader's Digest

Health

smart

**AUTUMN
ISSUE**

HEALTH EXPERTS
REVEAL THEIR

18 TOP
TIPS

**BIZARRE
HABITS
EXPLAINED**

Help for
headaches

HEAL YOURSELF

NEW TRENDS IN DIY CARE

Luxury
skincare

**SUGAR
IT'S REALLY
NOT SO EVIL**

**"PROMISE ME
ONE THING"
JOIN OUR
CAMPAIGN**

AUTUMN 2007
AUSTRALIA \$5.95* INC GST



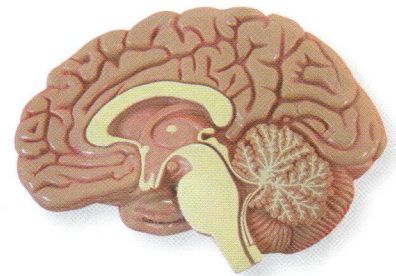
www.healthsmartmagazine.com.au



PHOTO: COURTESY OF RANDOM HOUSE PUBLISHING GROUP

TH
co
qu
pa
fir
—
Kat
neu
Pit
mo
She
Un
pra
An
her

ANOTHER DAY IN THE FRONTAL LOBE



Dr Katrina Firlik throws open the doors to the operating theatre to provide a rare insight into the fascinating world of a brain surgeon

THE BRAIN IS SOFT. Some of my colleagues compare it to toothpaste, but that's not quite right. It doesn't spread like toothpaste and it doesn't adhere to your fingers the way toothpaste does. Tofu –

Katrina Firlik was the first woman admitted to the neurosurgery residency programme at the University of Pittsburgh Medical Centre, the largest – and one of the most prestigious – neurosurgery programmes in the US. She is now a clinical assistant professor at Yale University School of Medicine and also has a private practice. She lives in Connecticut with her husband Andrew, a neurosurgeon turned venture capitalist, and her daughter Annika.

the soft variety – is probably a more accurate comparison. If you cut out a sizable cube of brain, it retains its shape, more or less, although not quite as well as tofu.

The issue of brain texture is on my mind all the time. Why? I'm a neurosurgeon and the brain is my business. Many of the brains I encounter have been pushed around by tumours, blood clots, infections or strokes. Some have been invaded by bullets, nails or even maggots.

A couple of years ago I was paged to the emergency room (ER) and received

the following report over the phone: "Carpenter coming in with a nail stuck in the left frontal region of his head..." What I encountered in the ER was a young man in his 30s, sitting up on a hospital trolley, perfectly awake and alert, arms crossed in repose and still in his workboots. Was he the right patient? He looked too good.

The carpenter explained that he and his friend had both been on ladders along the side of a house. His friend was working a few rungs above. They were driving heavy-duty nails into the walls with automatic nail guns. His

friend's hand slipped upon firing one of the nails and the nail entered the left frontal region of my patient's head.

For the first few moments after impact, the carpenter doubted what had happened. Although he noticed a stinging sensation in his head, there was no trickle of blood and he felt nothing unusual as his fingers frantically

his left frontal lobe. Luckily, it didn't snag any sizable blood vessels along the way and there was no evidence of bleeding within the brain. Unlike the more common gunshot wounds I see, this was a respectably neat and clean penetrating injury.

At this point, my biggest fear – bleeding in the brain – had been put to rest.

brain and a puncture wound on the surface of the brain itself, there was no blood oozing from the hole. We considered ourselves lucky.

Using large tools fit more for my patient's line of work, we pounded the nail through the disc of skull, backwards. After soaking the bone in an antibiotic solution, I neatly plated it back in place with miniature titanium plates and screws and sewed his scalp back together. Within less than 24

I find the brain infinitely interesting. It harbours personality and produces thought. If push comes

to shove, you can always use someone else's kidney. Your brain, however, is who you are

searched the top of his head. He wasn't sure if the nail had gone in. His friend knew otherwise.

Upon inspection of his scalp, past his crew cut, I could see the flat head of the nail, not quite flush with the scalp but a bit deeper. I sent him down the hall for a CT scan. The nail had entered his brain perpendicular to the surface of the skull and had been driven a good 5cm into

So what now? Put simply: we needed to get the nail out of this guy's head. It didn't cause any bleeding on the way in and we needed to avoid bleeding on the way out.

After calling on the appropriate team, I took the patient to the operating theatre, shaved a small patch of hair around the nail head, and made a short incision in his scalp, down to the skull. We drilled out a disc of bone from his skull, with the nail head at the centre of the disc. Slowly we lifted this piece of bone up away from the surrounding skull, bringing the firmly embedded nail with it. Although I could see a small jagged tear in the covering of the

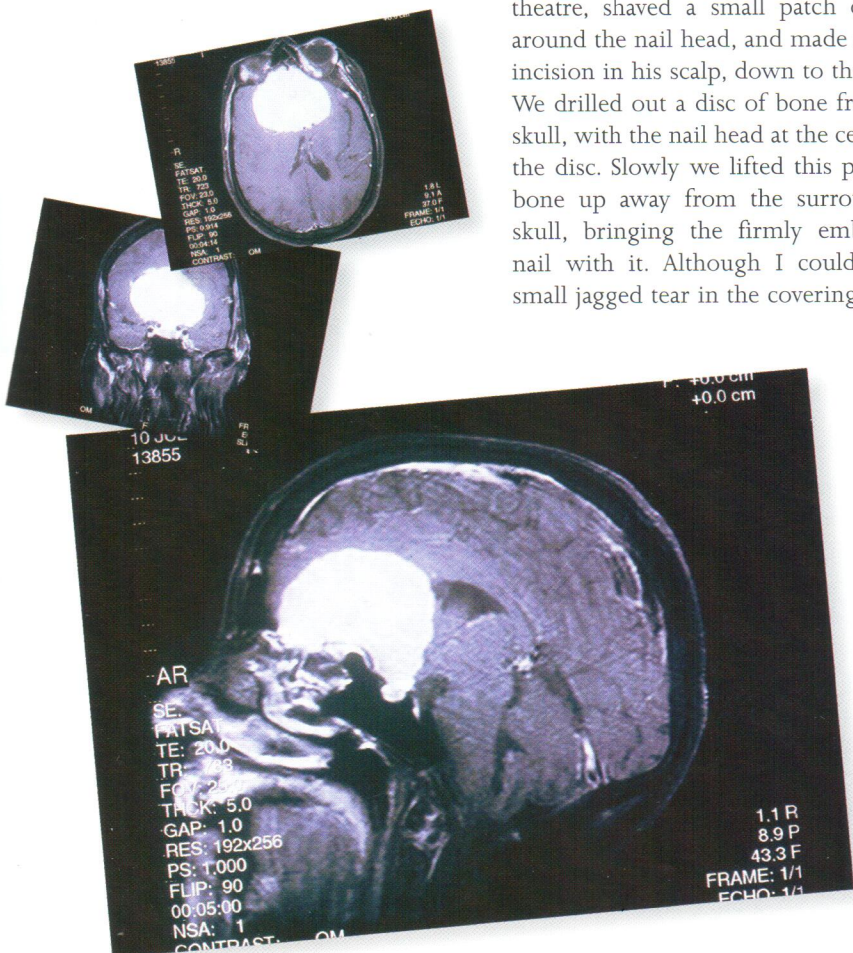
hours, the patient was on his way home, joking the entire length of the hall with the friend who nailed him in the head.

SOMETIMES I wonder why I chose such a strange career – and I don't always have a satisfying answer. Something about neurosurgery being the best way to combine my interest in the brain with doing things with my hands is the best I can come up with.

I find the brain infinitely more interesting than the kidney, the heart, the bones or the skin. The brain harbours personality and produces thought. If push comes to shove, you can always use someone else's kidney; there's nothing unique about your own. Your brain, on the other hand, is who you are.

The brain is such a complex organ, each one having to develop from scratch, that I'm amazed that so many develop normally. After conception, not only does the brain have to escape all the possible chinks in the genetic code,

ABOVE LEFT MRI scans of a female patient admitted with severe depression show a huge benign tumour – the white mass – compressing the frontal lobes of her brain. Firlik's team first examined the growth from every angle to plot how it could be removed safely. **ABOVE RIGHT** Through years of training, Firlik has perfected the incredible precision and steady hand required for brain surgery

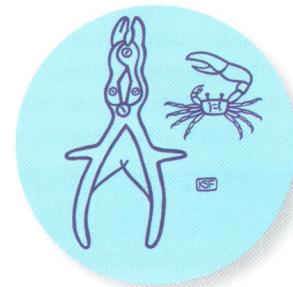


SCANS AND PHOTO: COURTESY OF KATRINA FIRLIK; ILLUSTRATIONS: KATRINA FIRLIK

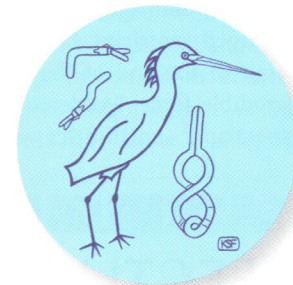
it the
durin
child
you
free.
On
unex
own
ing d
even
anon
I f
lifted
for a
slipp



KATRINA FIRLIK ILLUSTRATES BRAIN SURGERY



"I believe the more you know about something, the more you are likely to care about it. Here are some of my drawings to get you interested. I have paired each neurosurgery-inspired item with something from the natural world, either for good reason or simply for fun"



Top: The Leksell rongeur (and crab). This tool's main purpose is for biting off pieces of bone early on in an operation in order to expose more delicate parts of anatomy.
Above: Aneurysm clips (and egret). Clips of all sizes and curves are used to isolate sections of blood vessels in danger of bursting

SCANS AND PHOTO: COURTESY OF KATRINA FIRLIK; ILLUSTRATIONS: KATRINA FIRLIK

it then has to receive plenty of oxygen during the birthing process. Once a child's brain makes it past those hurdles, you would think it should be home free. But other hurdles await.

One child I took care of had a most unexpected roadblock to deal with: his own well-meaning mother. The disturbing deviations I saw in his brain were even more of a jolt than the congenital anomalies I see.

I first met Tyler as the paramedics lifted him off the ambulance stretcher for an emergency scan. He had recently slipped into a coma and I, as the resident

on call that Sunday, had to figure out why and what to do about it.

Tyler was a seven-year-old with an aggressive bacterial ear infection. His mother, a masseuse, had drawn upon her strong New Age sensibilities and treated the infection with herbal remedies. However, they had failed to work and what initially began as a typical childhood ear infection soon progressed until foul-smelling pus was draining from Tyler's ear.

His mother then consulted a paediatrician who prescribed a standard antibiotic regimen and urged prompt

and complete treatment. But, wary of antibiotics, Tyler's mother instead intensified her herbal remedies.

One Sunday morning, several days later, Tyler woke up confused and lethargic. He was pale, clammy, and babbling incoherently. Then he had a seizure. He was rushed by ambulance to the nearest hospital and then transported by helicopter to the children's hospital I was working at.

Looking at his brain scans, I could see that all four ventricles of Tyler's brain were markedly enlarged and his brain were clearly under considerable pressure.

The story was clear: his unchecked bacterial ear infection had infiltrated through the inner ear. From here, it is only a short distance for bacteria to travel to the outer lining of the brain, the journey facilitated by the complete absence of antibiotics. Once this lining, known as the meninges, is violated, a raging bacterial meningitis ensues,

administered through his intravenous line. The experiments with herbal remedies were over.

People often ask doctors how we handle the emotional stress of dealing with seriously ill children. What are our defence mechanisms? Do we practise a cool detachment? Do we shut off our emotions completely? Or do we go

ability to actually do something protects us from what you might expect would be a chronic depressive state.

Luckily, Tyler woke up within a few hours. The antibiotics did their job and his meningitis cleared up within days. Still, at that point, he wasn't quite the same kid he had been. He was a blunted version of the old Tyler, not as quick-witted or as cheerful, according to his family. Even so, I had high hopes for his future. Kids tend to bounce

I will always remember my introduction to the mantra I was to hear over and over again during

leading to extreme pressurisation within the skull – something we rarely see in the developed world.

We immediately wheeled Tyler into intensive care, where I drilled a small hole through the top of his skull and inserted a thin drainage tube into one of the enlarged ventricles. Cloudy fluid spewed out of the end of the catheter with incredible force. I ordered potent broad-spectrum antibiotics to be

my years of training: the patient is the one taking the risk, not the surgeon

home at the end of the day and sob over a reheated dinner?

I would say that cool detachment does come in handy on occasion, but the answer is really none of the above. The truth is we are trained to do a job: recognise a problem, come up with a solution and execute that plan. Our

back over time, and while he may not become an A student, I for one was satisfied knowing that he'd at least be a student.

His mother's brain, on the other hand, had suffered a long-lasting injury of a different sort and I couldn't predict how well she would bounce back.

PERFECTLY BALANCED CLEANSERS WITH COLLOIDAL OATMEAL

Most soaps can be harsh and can strip your skin of its natural protective coating, leaving it dry, itchy and flaky. Furthermore, if you suffer from

sensitive skin or other skin conditions such as eczema, psoriasis or acne, the use of soap can further aggravate your skin condition. DermaVeen's low lathering Soap Free

Cleansing Bar and Wash with **Colloidal Oatmeal** are both ideal soap alternatives for all kinds of skin. Gentle enough for

everyday use, and formulated with a pH that almost perfectly matches healthy skin, they help

stabilise your skin's own protective film.

DermaVeen®

SOAP FREE CLEANSING BAR & WASH

AVAILABLE IN ALL LEADING PHARMACIES.

MADE HERE IN AUSTRALIA BY AN AUSTRALIAN-OWNED DERMATOLOGY COMPANY.



FREE SAMPLE

For a free sample of
DermaVeen Soap Free Wash 10mL sachet,
Call 1800 818 220, email reception@dermatech.com.au
or write to DermaTech Pty Ltd,
PO Box 15, Seven Hills, NSW 2147.
(Limit – 2 sachets per person)

Offer ends 31 May 2007. Please allow 28 days delivery.



SOMETIMES, handling a patient's anxiety can be even more complicated and more time-consuming than the surgery itself. Surgeons are obligated to educate a patient about their condition and treatment options, but then are faced with managing the anxiety that goes with that knowledge.

Some surgeons loathe this part of the job. It reminds them of all the reasons they didn't go into, say, psychiatry. They prefer patients under anaesthesia to patients wringing their hands, crying, and reading off a list of questions.

During my training, I observed how different neurosurgeons interacted with their patients in discussing the risks of surgery. I knew I'd have to devise my own personal style, but I figured I could pick up on what seemed to work and what didn't.

On one extreme was the warm hand-holder who peppered religious-speak into his counselling, adding blessings to

his discussions of what could go wrong ("We'll get you through this, with God's grace"). I have to be honest: that style worked wonders, especially with the older ladies, but I could never adopt it myself. I wouldn't be able to keep a straight face.

On the other extreme was the guy who, I'm ashamed to admit, was entertaining to watch, in a sadistic sort of way. There's only one word to describe his style: blunt. Here's how he'd describe the risks of surgery for an aneurysm of the brain: "You could have a stroke. (Pause.) You could have permanent brain damage. (Pause.) You could become a vegetable. (Pause.) You could die."

Although these statements were technically correct, the monotone voice and the shark-like demeanour that went with them explained his uncanny ability to make a patient burst into tears.

Needless to say, I didn't adopt this style, either, but I did appreciate the

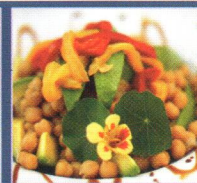
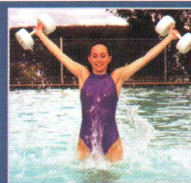
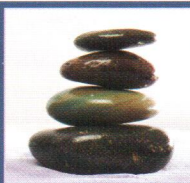
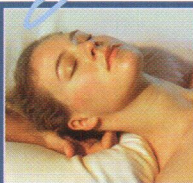
warning this surgeon left me with: if the patient isn't crying by the time you're done going over the consent for surgery, then you haven't done your job. The risks of surgery have to be laid out plain, in the open, and cannot be taken lightly. It was a lesson I learnt in the most devastating way.

The patient was a young woman, a teenager really, who decided to undergo surgery only after painful deliberation. Years earlier, she had been diagnosed with a large malformed tangle of blood vessels in her brain (an AVM, or arteriovenous malformation). Unfortunately, this AVM was of an extreme type – very large and in a dangerous location – informally known among neurosurgeons as a "handshake AVM": as you walk out of the neurosurgeon's office, a handshake is all he or she has to offer.

For years, the patient and her parents had lived in fear, never knowing if or when this malformation would decide to bleed. They knew a bleed could be

HOPEWOOD

Your health retreat



...Relax,
Detox,
Rejuvenate!

Hopewood
Health Retreat
Est. 1960

PH: 02 4773 8401
www.hopewood.com.au

fatal. They also knew that surgery could be fatal. They respected their surgeon's seasoned opinion that surgery wasn't an option and understood his reluctance to risk having a hand in her death if surgical removal were attempted.

But one surgeon's handshake is another surgeon's challenge, and when her original paediatric neurosurgeon left town to practise elsewhere, her parents sought the advice of another neurosurgeon – one who was known for both his superlative microsurgical skills and his willingness to take on the most difficult of cases. I suspect the young woman and her parents were impressed by his confidence and reputation. Their impression, combined with the chronic unease that arose from doing nothing, tipped their decision towards surgery.

The operation was a challenge, a technical tour de force. The AVM, which had probably been there since birth, did not give in easily. It had spent its entire existence within the dark confines of her skull, sharing space with her brain. The surgeon worked for hours, meticulously, under the bright focus of the surgical microscope. He closed off one abnormal blood vessel after another, making sure to interrupt the complex inflow to the beast first, knowing that interrupting its outflow too early could provoke a bloody explosion.

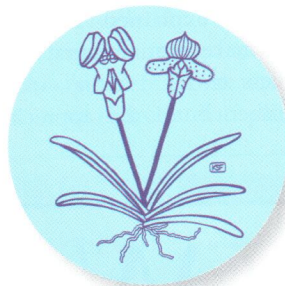
The final vessels were closed off and the tangled mass was removed. I was surprised by the size of the depression left behind, where her brain had accommodated the malformation's presence. Her head was closed up, and she was wheeled out to recovery.

After having witnessed this surgeon's skill with my own eyes, I agreed that his reputation and even his cockiness were well deserved. If I ever needed a brain operation, I decided, he would be my surgeon. I thought about how satisfying it must be for him to go out to the family, announce his success, and vindicate their most difficult decision. After all, they had put their daughter's life in his hands.

ILLUSTRATING BRAIN SURGERY (CONTINUED)



Above: The Circle of Willis (and insect). This collection of arteries at the base of the brain can deliver an incredibly rich supply of blood. One anatomical perk of this design: if a blockage occurs at any point along the circle, the brain can borrow flow from the other side



Above: The brain stem (and orchid, right). It's the most primitive part of the brain and controls breathing and heart rate. One small injury to this area or a swelling elsewhere in the brain that compresses this structure can be devastating. It's what neurosurgeons call "expensive real estate"



Above: The hippocampus (and seahorse). This structure is located in the innermost portion of the temporal lobes and is exquisitely sensitive to damage in the event of low blood flow to the brain. It plays a critical role in memory and learning. The hippocampus is implicated in certain forms of epilepsy

The patient woke up gradually over the next half hour, recovering slowly after hours of anaesthesia. She wasn't awake for long before the nurse noticed early signs of trouble. Minutes later she was unresponsive. A head scan revealed a catastrophe: massive bleeding into the brain, including the delicate brain stem.

The surgeon went through all the right motions of a heroic rush back to the operating theatre, but the damage had been done and he knew it. The bleed was fatal. Despite all good intentions and a technically successful operation, her brain could not tolerate the perturbations in circulation that accompanied removal of the large, tangled mass of vessels. Maybe an otherwise normal artery in her brain, not used to the new pressure dynamics, broke open. Or a critical vein near the malformation may have clotted off, leaving too few outflow options for the brain's rich blood supply.

Whatever the explanation, I imagined this was the AVM's final demand for respect, with her scan representing a "don't touch" warning to other surgeons. Even though I was only a fourth-year medical student at the time, I have never forgotten this tragic introduction to the mantra I would hear again and again throughout my training: the patient is the one taking the risk, not the surgeon.

WHILE DEATH and devastation are part of the job, you can't cry over every patient. I've cried on the job only once – and I've regretted it ever since. The case involved a young, healthy man in his late 20s, just a couple years younger than I was at the time. He had a seizure while taking a shower one evening. His wife heard the loud thump and ran upstairs to find her husband unconscious, limbs flailing.

I met him in the ER. By that time he had regained full consciousness and was nearly back to his normal self. A CT scan showed that a small patch of brain

was slightly darker than normal. We knew this probably represented a stroke, a tumour or an infection. But why would this otherwise healthy man have a stroke or an infection? Tumours are more random and risk factors are not required, so we felt this diagnosis was, unfortunately, more likely.

Another detailed scan the following morning convinced us our hunch was right. So he was sent to the operating

enough to go home despite having just had brain surgery.

I sent his friends out and then sat down and delivered the news. I hinted at the ultimate implications of his diagnosis but I didn't want to hit this too hard too soon. I wanted to give him some time to digest the shock of the unexpected. I looked at his wife, his infant daughter, and at him. He nodded his head, slowly, calmly.

was about to change their lives. I could see the future all too clearly.

The patient continued to look at me stoically, nodding his head. He exhaled audibly and then thanked me. I didn't deserve much thanks, though. I worried that my unbridled outpouring of grief had wiped out any shred of hope the family had. Chances are that if the surgeon is bawling, the prognosis is dismal.

Eventually I calmed down, hugged his wife, and left the room, passing his friends in the hallway, looking downward to shield my face. I walked

You hear all the time about how someone didn't appreciate their life until they almost lost it.

theatre for a biopsy and removal of as much of the tumour as was safe. Based on his scans, we felt the tumour was probably benign: it didn't really light up much with the intravenous contrast. The worst ones usually do.

The day after surgery, I stopped by the patient's room. He looked great and I promised to return at the end of my rounds after speaking with pathology. I finished my work and sat down at the nurses' station to call the pathologist.

"It's not benign," he told me. "Definitely not benign. The entire department took a look at it and we all agree. It's not what we were expecting."

On the standard brain tumour scale of one through four, with four being the worst, this young man's tumour was a three. The problem is, a three eventually turns into a four, and once it's a four, life expectancy is usually measured in months rather than years. I knew how this patient's life was going to change – and eventually end – and now I had to go and tell him.

I walked down the hallway to his room where his door was open and a few of his friends were visiting. His wife and new baby daughter were there, too. With all the joking and laughing, the mood was festive.

Too cool to stay in his flimsy gown, the patient had taken it upon himself to change into his jeans, T-shirt and a cap. He shunned the bed and was sitting in a chair by the window. He looked good

I guess I've been fortunate to be able to borrow from everyone else's experience

I wanted to provide them with some hope, so I started, reflexively, to enumerate all the potential treatments he could receive that would give him the best possible chance. I reassured him he was young and healthy, which would put him in a more favourable category.

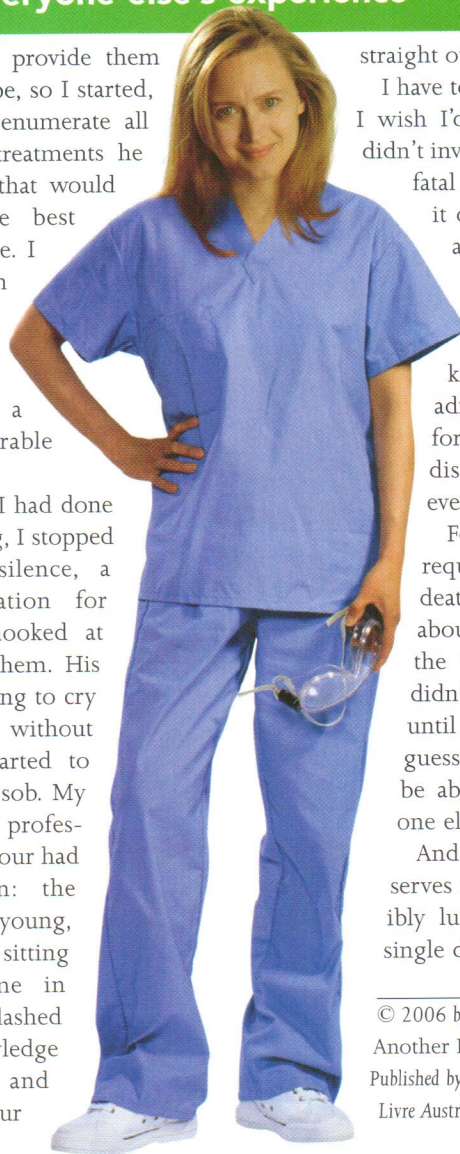
When I felt I had done enough talking, I stopped and sat in silence, a natural invitation for questions. I looked at the three of them. His wife was starting to cry silently. Then, without warning, I started to cry, too, then sob. My usually calm professional demeanour had broken down: the vision of this young, vibrant family, sitting here with me in the present, clashed with my knowledge of biology and how this tumour

straight outside and drove home.

I have to admit that sometimes I wish I'd chosen a career that didn't involve the handing out of fatal diagnoses. But, believe it or not, I do experience a personal upside to seeing so much go so wrong. It sounds a bit hackneyed, I know, but I have to admit that my career has forced me to develop a distinct appreciation for everyday life.

For many people, this requires some sort of near-death experience. You hear about these revelations all the time – how someone didn't appreciate their life until they almost lost it. I guess I've been fortunate to be able to borrow from everyone else's experience.

And I have to say, it only serves to make me feel incredibly lucky about life – every single day. +



© 2006 by Katrina S. Firlík. From *Another Day in the Frontal Lobe* Published by Orion, distributed by Hachette Livre Australia from April 12 at \$27.