About the site

- 2 - 3 ScienceNOWs per day
- ~ 3 ScienceInsiders per day
- 1-2 ScienceShots per day
- 5 Sifters per day
- 1 podcast per week
- All areas of science
- All original content
- 3/4 from freelancers
- 1/2 pitched
- Staff is same as Science
Part I

How to Write a Daily News Story
Part I

How to Write a Daily News Story

Writing Well
Three main jobs of a science journalist
Three main jobs of a science journalist

• Inform
Three main jobs of a science journalist

- Inform
- Entertain
Three main jobs of a science journalist

- Inform
- Entertain
- Translate
Enhancement of proteasome activity by a small-molecule inhibitor of USP14

Byung-Hoon Lee1, Min Jae Lee1, Soyeon Park1, Dong-Chan Oh2,3, Suzanne Elsasser1, Ping-Chung Chen1, Carlos Gartner1, Nevena Dimova1, John Hanna1, Steven P. Gygi1, Scott M. Wilson4, Randall W. King1 & Daniel Finley1

Proteasomes, the primary mediators of ubiquitin–protein conjugate degradation, are regulated through complex and poorly understood mechanisms. Here we show that USP14, a proteasome-associated deubiquitinating enzyme, can inhibit the degradation of ubiquitin–protein conjugates both in vitro and in cells. A catalytically inactive variant of USP14 has reduced inhibitory activity, indicating that inhibition is mediated by trimming of the ubiquitin chain on the substrate. A high-throughput screen identified a selective small-molecule inhibitor of the deubiquitinating activity of human USP14. Treatment of cultured cells with this compound enhanced degradation of several proteasome substrates that have been implicated in neurodegenerative disease. USP14 inhibition accelerated the degradation of oxidized proteins and enhanced resistance to oxidative stress. Enhancement of proteasome activity through inhibition of USP14 may offer a strategy to reduce the levels of aberrant proteins in cells under proteotoxic stress.
All of our cells contain shredders that grind large proteins into tiny bits. Researchers have now found a small molecule that speeds up these cellular machines—known as proteasomes—accelerating the destruction of unwanted proteins. If similar molecules work in humans, they could lead to drugs to help combat Alzheimer’s, Parkinson’s, and other diseases.
Tips for writing well
Tips for writing well
No jargon

Use words the average reader would understand
No jargon

Use words the average reader would understand

No  Yes

double-blind study
No jargon

Use words the average reader would understand

No

double-blind study

Yes

A study where neither the researchers nor the volunteers knew which drug was being administered
<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>double-blind study</td>
<td>A study where neither the researchers nor the volunteers knew which drug was being administered</td>
</tr>
<tr>
<td>interspecies predation</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>double-blind study</td>
<td>A study where neither the researchers nor the volunteers knew which drug was being administered</td>
</tr>
<tr>
<td>interspecies predation</td>
<td>Two different species attacking each other</td>
</tr>
</tbody>
</table>
No jargon

*Use words the average reader would understand*

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>double-blind study</td>
<td>A study where neither the researchers nor the volunteers knew which drug was being administered</td>
</tr>
<tr>
<td>interspecies predation</td>
<td>Two different species attacking each other</td>
</tr>
<tr>
<td>olfaction</td>
<td></td>
</tr>
</tbody>
</table>
**No jargon**

Use words the average reader would understand

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>double-blind study</td>
<td>A study where neither the researchers nor the volunteers knew which drug was being administered</td>
</tr>
<tr>
<td>interspecies predation</td>
<td>Two different species attacking each other</td>
</tr>
<tr>
<td>olfaction</td>
<td>smell</td>
</tr>
</tbody>
</table>
No academic speak

Talk like a human being. Make it conversational.
No academic speak

Talk like a human being. Make it conversational.

No  Yes

It experienced difficulty maintaining
a vertical orientation
No academic speak

Talk like a human being. Make it conversational.

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>It experienced <strong>difficulty maintaining a vertical orientation</strong></td>
<td>It had trouble staying upright</td>
</tr>
</tbody>
</table>
No academic speak

Talk like a human being. Make it conversational.

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>It experienced difficulty maintaining a vertical orientation</td>
<td>It had trouble staying upright</td>
</tr>
<tr>
<td>A multi-pronged approach will be necessary to address all parameters of the epidemic</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>It experienced difficulty maintaining a vertical orientation</td>
<td>It had trouble staying upright</td>
</tr>
<tr>
<td>A multi-pronged approach will be necessary to address all parameters of the epidemic</td>
<td>Scientist will need to employ every weapon in their arsenal to defeat this disease</td>
</tr>
</tbody>
</table>
No academic speak

Talk like a human being. Make it conversational.

No

It experienced difficulty maintaining a vertical orientation

A multi-pronged approach will be necessary to address all parameters of the epidemic

Additional testing is warranted to ensure the drug does not cause undue problems in humans

Yes

It had trouble staying upright

Scientist will need to employ every weapon in their arsenal to defeat this disease
# No academic speak

*Talk like a human being. Make it conversational.*

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>It experienced difficulty maintaining a vertical orientation</td>
<td>It had trouble staying upright</td>
</tr>
<tr>
<td>A multi-pronged approach will be necessary to address all parameters of the epidemic</td>
<td>Scientist will need to employ every weapon in their arsenal to defeat this disease</td>
</tr>
<tr>
<td>Additional testing is warranted to ensure the drug does not cause undue problems in humans</td>
<td>The researchers need to carry out more tests to make sure their drug is safe for people</td>
</tr>
</tbody>
</table>
No passive voice

Write active sentences with strong actors
No passive voice

Write active sentences with strong actors

No | Yes
---|---
The planet was struck by an asteroid and the atmosphere became filled with debris
No passive voice

Write active sentences with strong actors

No

The planet was struck by an asteroid and the atmosphere became filled with debris

Yes

An asteroid slammed into the planet, shooting clouds of debris into the air
No passive voice

Write active sentences with strong actors

No
The planet was struck by an asteroid and the atmosphere became filled with debris

Yes
An asteroid slammed into the planet, shooting clouds of debris into the air

The use of psychedelic drugs to treat cigarette smoking has been a controversial topic amongst scientists for years
<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The planet was struck by an asteroid and the atmosphere became filled with debris</td>
<td>An asteroid slammed into the planet, shooting clouds of debris into the air</td>
</tr>
<tr>
<td>The use of psychedelic drugs to treat cigarette smoking has been a controversial topic amongst scientists for years</td>
<td>For decades researchers have hotly debated whether it’s safe—or even ethical—to treat smoking with psychedelic drugs</td>
</tr>
</tbody>
</table>
### No passive voice

**Write active sentences with strong actors**

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The planet was struck by an asteroid and the atmosphere became filled with debris</td>
<td>An asteroid slammed into the planet, shooting clouds of debris into the air</td>
</tr>
<tr>
<td>The use of psychedelic drugs to treat cigarette smoking has been a controversial topic amongst scientists for years</td>
<td>For decades researchers have hotly debated whether it’s safe—or even ethical—to treat smoking with psychedelic drugs</td>
</tr>
<tr>
<td>The mice were injected with a drug</td>
<td></td>
</tr>
</tbody>
</table>
No passive voice

Write active sentences with strong actors

**No**

The planet was struck by an asteroid and the atmosphere became filled with debris

The use of psychedelic drugs to treat cigarette smoking has been a controversial topic amongst scientists for years

The mice were injected with a drug

**Yes**

An asteroid slammed into the planet, shooting clouds of debris into the air

For decades researchers have hotly debated whether it’s safe—or even ethical—to treat smoking with psychedelic drugs

The researchers injected the mice with a drug
No vague, mushy language

Create a movie in the reader’s mind with vivid details
No vague, mushy language

Create a movie in the reader’s mind with vivid details

No  Yes

Magic mushrooms were highly effective in spurring a behavior change
No vague, mushy language

Create a movie in the reader’s mind with vivid details

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magic mushrooms were highly effective in spurring a behavior change</td>
<td>People who took magic mushrooms were happier and less paranoid</td>
</tr>
</tbody>
</table>
No vague, mushy language

Create a movie in the reader’s mind with vivid details

No

Magic mushrooms were highly effective in spurring a behavior change

The researchers created a relaxing environment

Yes

People who took magic mushrooms were happier and less paranoid
No vague, mushy language

Create a movie in the reader’s mind with vivid details

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magic mushrooms were highly effective in spurring a behavior change</td>
<td>People who took magic mushrooms were happier and less paranoid</td>
</tr>
<tr>
<td>The researchers created a relaxing environment</td>
<td>The researchers dimmed the lights, provided a soft couch, and played classical music at low volume</td>
</tr>
</tbody>
</table>
No vague, mushy language

Create a movie in the reader’s mind with vivid details

No

Magic mushrooms were highly effective in spurring a behavior change
The researchers created a relaxing environment
The asteroid was large and oddly shaped

Yes

People who took magic mushrooms were happier and less paranoid
The researchers dimmed the lights, provided a soft couch, and played classical music at low volume
No vague, mushy language

Create a movie in the reader’s mind with vivid details

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magic mushrooms were highly effective in spurring a behavior change</td>
<td>People who took magic mushrooms were happier and less paranoid</td>
</tr>
<tr>
<td>The researchers created a relaxing lights, environment</td>
<td>The researchers dimmed the lights, provided a soft couch, and played classical music at low volume</td>
</tr>
<tr>
<td>The asteroid was large and oddly shaped</td>
<td>The massive space rock, which looked a bit like two ashen golf balls fused together, packed the heft of two battleships</td>
</tr>
</tbody>
</table>
Shorter = Better

Shorter sentences and paragraphs pack more punch
Shorter = Better

Shorter sentences and paragraphs pack more punch

No

Yes

The Senate voted to reduce the amount of money budgeted to NIH by half
Shorter = Better

Shorter sentences and paragraphs pack more punch

No
The Senate voted to reduce the amount of money budgeted to NIH by half

Yes
The Senate cut the NIH’s budget in half
Shorter = Better

Shorter sentences and paragraphs pack more punch

No

The Senate voted to reduce the amount of money budgeted to NIH by half

Yes

The Senate cut the NIH’s budget in half

When you go out for dinner in 50 years, watch out for *Océan Blanc* on the wine list. Researchers have determined that as the globe warms up, the best places for grape growth will change to cooler latitudes. Landlocked wineries will be fine for a while, but in some cases, there’s no land in those directions: Only ocean. Unfortunately it would be quite the endeavor to manufacture islands specifically for vineyards, so other compromises will have to be made to save this multi-billion dollar industry.
**Shorter = Better**

*Shorter sentences and paragraphs pack more punch*

**No**

The Senate voted to reduce the amount of money budgeted to NIH by half.

When you go out for dinner in 50 years, watch out for *Océan Blanc* on the wine list. Researchers have determined that as the globe warms up, the best places for grape growth will change to cooler latitudes. Landlocked wineries will be fine for a while, but in some cases, there’s no land in those directions: Only ocean. Unfortunately it would be quite the endeavor to manufacture Islands specifically for vineyards, so other compromises will have to be made to save this multi-billion dollar industry.

**Yes**

The Senate cut the NIH’s budget of in half.

Go out to dinner in 50 years, and you just might find *Ocean Blanc* on the wine menu. That’s one possible consequence of climate change, according to a new study. As the world warms, winemakers will have to move their vineyards to cooler latitudes to maintain the same grape quality they have today. And in some cases those latitudes could be smack in the middle of the ocean.
A word about quotes...
Quotes

Quote basics
Quote basics

• Good quotes are like good writing: the more conversational and compelling they are, the better.
Quotes

Quote basics

• Good quotes are like good writing: the more conversational and compelling they are, the better.

A bad quote: “The effects of the polymorphism may be greater than these results indicate”
Quotes

Quote basics

- Good quotes are like good writing: the more conversational and compelling they are, the better.

**A bad quote:** “The effects of the polymorphism may be greater than these results indicate”

**A good quote:** “It’s very sweet. When they’re doing this singing thing, they’re reaching their legs across to the other one, trying to play footsies.”
Quotes

Quote basics

• Good quotes are like good writing: the more conversational and compelling they are, the better.

A bad quote: “The effects of the polymorphism may be greater than these results indicate”

A good quote: “It's very sweet. When they're doing this singing thing, they're reaching their legs across to the other one, trying to play footsies.”

• Quotes are like Christmas lights: only put something between them that you want to draw attention to
Quotes

Good Quotes

• Sound better than a paraphrase
Quotes

Good Quotes

• Sound better than a paraphrase

"My mouth was kind of hanging open as I was reading," says developmental biologist Janet Werker.

Not: Developmental psychologist Janet Werker says this is a good study.
Quotes

When Not to Quote
Quotes

When Not to Quote

• Not everything someone says is worth quoting.
Quotes

When Not to Quote

• Not everything someone says is worth quoting.

Redundant: The drug cured cancer in 50% of the mice. “It worked on half of the mice,” says biologist Jane Doe.
Quotes

When Not to Quote

• Not everything someone says is worth quoting.

  **Redundant:** *The drug cured cancer in 50% of the mice.* “It worked on half of the mice,” says biologist Jane Doe.

  **Bland:** “*The findings are statistically significant.*” “It’s a really interesting study.” “Then we injected the mice with 40 milliliters of water.”
Other tips
Other tips

• Read a good story before you write a good story
Other tips

• Read a good story before you write a good story

• If you don't have a lot to say, don't spend a long time saying it.
Other tips

• Read a good story before you write a good story

• If you don't have a lot to say, don't spend a long time saying it.

• Better to go long and clear than short and confusing
Other tips

• Read a good story before you write a good story

• If you don't have a lot to say, don't spend a long time saying it.

• Better to go long and clear than short and confusing

• Rewrite, rewrite, rewrite
Part I

How to Write a Daily News Story

Structure
How to Write a ScienceNOW

Glacial Blankets Can Protect Mountains From Erosion

Glaciers have a reputation as geological buzz saws. They grind down mountains and carve deep valleys. But a new study reveals that glaciers can sometimes protect mountains as well. Over the past 5 million years, receding glaciers near what is today Tierra del Fuego, at the tip of South America, have wrapped themselves around the southern Patagonian Andes, preventing the mountains from being eroded like their sister peaks to the north.

Periodic glaciation—a process that continues to this day—has smoothed havoc on parts of the Patagonian Andes, lie up to thousands of meters thick accumulated from millions of precipitation. Ice strip rock that is being pushed upward by the Plateau-Ovoino tectonic plate dipping under South America. In the more temperate part of the range, from 38° to 49° south latitude, the glacial glacier has shaved off as much as 1000 meters from the mountains’ peaks, flattened their slopes, and smoothed their surfaces. But further south, between 49° and 59° latitude, the mountains have been spared. The peaks are higher—some near 4000 meters—and the ridges are much more rugged.

To find out why, a team led by geologist Stuart Thomason of the University of Arizona in Tucson spent several months collecting rock samples from various locations and elevations along the Patagonian Andes. The researchers tested 146 of those samples using a technique called thermochronology, whereby they find a laser at a given site of the mineral apatite in the rock. The laser heats the grains, releasing isotopes of helium trapped inside the apatite. By calculating the rate of these isotopes, the researchers can determine when the rock in question cooled below 70°C and trapped the helium in the first place. The younger the rock, the more deeply it must have been imbedded in the mountain, and thus the more the mountain must have eroded.

Based on the analyses, Thomason and colleagues conclude that the rocks from the southern portion of the Patagonian Andes are uniformly older than the samples collected in the north. What happened, they report in the 18 September issue of Nature, is that along the northern portion of the mountain range, temperatures remained moderate enough to create thick layers of water under the ice, which provided enough lubrication for the glaciers to slide and grind down the mountain peaks and slopes. But further south, temperatures were too low for the water layers to form. The ice stayed frozen solid, binding to the rock and protecting it from wind, water, and the wearing effects of the ice itself when it slides down the slopes. It’s a compelling idea, Thomason says, that “climate has a strong influence on mountain building.”

It’s a “very good paper” that demonstrates a concept that “has been very difficult to demonstrate in the field,” says geologist Jean Braun of Université Joseph Fourier in Grenoble, France. “Erosion, or the lack of it, can change the dynamic of mountain building,” he explains, so the key to quantify the relationship. The researchers have provided “one of the best proofs to date [that] the link is real and quantifiable.”
**Thumbs Up for Leech Therapy**

By Dan Huber

ScienceNOW Daily News
26 May 2006

EDMONTON, ALBERTA—Bloodsucking leeches relieve the pain of thumb arthritis more effectively and for a longer period of time than the conventional painkilling ointment, according to new clinical trial results. The findings, presented here yesterday at the North American Research Conference on Complementary and Integrative Medicine, may prove leech treatment one large wriggler closer to the mainstream of medicine.

Osteoarthritis of the thumb afflicts millions of people, causing joint pain debilitating enough to keep them from opening jars, writing notes, and gripping anything tightly. Doctors usually prescribe painkilling pills, injections, or ointments, but none of the treatments work well. Internist Gustav Dobos of the University of Essen in Germany, and his colleagues, had successfully treated patients’ arthritic knees with leeches before. The workers inject a blood-thinning chemical called hirudin and several substances that limit inflammation—components that keep a prey’s blood flowing in the wild (ScienceNOW, 6 February 1998).

To see whether the bloodsuckers could also ease thumb-joint pain, Dobos’s team randomly assigned 32 women with a median age of 64 to one of two groups. Sixteen of the women applied a commonly used painkilling ointment called diclofenac twice a day for 30 days. The other group was treated once with two or three leeches, which were allowed to latch onto the soft tissue on or near the joint at the base of the thumb. When the patients returned for follow-up visits, the German team had them use a standardized test to rate their pain on a scale of 0 to 100 while their hands were at rest or while they performed various tasks, such as moving their fingers or gripping a ball.

A week after they were treated, leeched patients rated their pain less than half as intense as those who received ointment, and after 2 months, their pain was still significantly less than the ointment-treated group reported. In addition, the leech patients’ grip strength, as measured by their grip on a ball that measures force, had improved by 36% 2 months after the treatment. Ointment patients only experienced a 7% increase in grip strength. Finally, arm and hand disability in the leech group decreased by 47% after 2 months compared to just a 4% improvement for the ointment group.

The successful leech therapy is "really exciting because it’s a new treatment for a condition that’s very difficult to treat," says internist Roman Huber of the University of Freiburg, Germany. "What’s more, he says, "it’s astonishing that the effect lasts so long."

**Related sites**
- [Background on the medicinal leech](#)
- [Background on osteoarthritis](#)
How to Write a ScienceNOW
How to Write a ScienceNOW

Length: SNOWs should run about 600 to 800 words.
How to Write a ScienceNOW

Length: SNOWs should run about 600 to 800 words.

Structure: SNOWs typically adhere to a 5 to 6 paragraph format organized as follows:
How to Write a ScienceNOW

Length: SNOWs should run about 600 to 800 words.

Structure: SNOWs typically adhere to a 5 to 6 paragraph format organized as follows:

**Introduction** (1 graf) - creative/eye catching lede + what's new + why it's important
How to Write a ScienceNOW

Length: SNOWs should run about 600 to 800 words.

Structure: SNOWs typically adhere to a 5 to 6 paragraph format organized as follows:

**Introduction** (1 graf) - creative/eye catching lede + what's new + why it's important

**Background** (1 graf) - what has been done before + what does the reader need to know to understand the significance of the study + what big question is being addressed
How to Write a ScienceNOW

Length: SNOWs should run about 600 to 800 words.

Structure: SNOWs typically adhere to a 5 to 6 paragraph format organized as follows:

**Introduction** (1 graf) - creative/eye catching lede + what's new + why it's important

**Background** (1 graf) - what has been done before + what does the reader need to know to understand the significance of the study + what big question is being addressed

**Methods/Results** (1-2 grafs) - what experiments were done + what were the results
How to Write a ScienceNOW

**Length:** SNOWs should run about 600 to 800 words.

**Structure:** SNOWs typically adhere to a 5 to 6 paragraph format organized as follows:

- **Introduction** (1 graf) - creative/eye catching lede + what's new + why it's important
- **Background** (1 graf) - what has been done before + what does the reader need to know to understand the significance of the study + what big question is being addressed
- **Methods/Results** (1-2 grafs) - what experiments were done + what were the results
- **Author Comment / Conclusion** (1 graf): Quote from at least one researcher + wrapup of the findings and why they matter
How to Write a ScienceNOW

Length: SNOWs should run about 600 to 800 words.

Structure: SNOWs typically adhere to a 5 to 6 paragraph format organized as follows:

- **Introduction** (1 graf) - creative/eye catching lede + what's new + why it's important

- **Background** (1 graf) - what has been done before + what does the reader need to know to understand the significance of the study + what big question is being addressed

- **Methods/Results** (1-2 grafs) - what experiments were done + what were the results

- **Author Comment / Conclusion** (1 graf): Quote from at least one researcher + wrapup of the findings and why they matter

- **Comment** (1 graf) – you should speak to at least 2 outside experts and quote at least one of them. Experts are not affiliated with the study but are qualified to speak about the research. You may share the paper with them, but have them agree to an interview first and tell them they must respect the embargo.
Science Stories

How to Write a ScienceNOW

Tips for Writing a ScienceNOW

Ask 5 simple questions:
How to Write a ScienceNOW

Tips for Writing a ScienceNOW

Ask 5 simple questions:

• What do we know?
Science Stories

How to Write a ScienceNOW

Tips for Writing a ScienceNOW

Ask 5 simple questions:

• What do we know?
• What don’t we know?
Science Stories

How to Write a ScienceNOW

Tips for Writing a ScienceNOW

Ask 5 simple questions:

• What do we know?
• What don’t we know?
• What did they do?
Science Stories

How to Write a ScienceNOW

Tips for Writing a ScienceNOW

Ask 5 simple questions:

• What do we know?
• What don’t we know?
• What did they do?
• What did they find?
Science Stories

How to Write a ScienceNOW

Tips for Writing a ScienceNOW

Ask 5 simple questions:

• What do we know?
• What don’t we know?
• What did they do?
• What did they find?
• Why do we care?
How to Write a *ScienceNOW*

*PhysiScore Study*

• What do we know?
PhysiScore Study

• What do we know?

Doctors use a couple kinds of tests to determine whether preemies are going to need extra care, but the tests are either invasive or they’re not very accurate.
Science Stories

How to Write a *Science*NOW

*PhysiScore Study*

• What don’t we know? (i.e. What’s the mystery?)
How to Write a *Science*NOW

**PhysiScore Study**

• What don’t we know? (i.e. What’s the mystery?)

Is there a way to develop a fast, accurate, and non-invasive way to determine whether preemies are going to need extra care?
How to Write a *Science*NOW

*PhysiScore Study*

• What did they do?
How to Write a *Science*NOW

**PhysiScore Study**

• What did they do?

They collected data from 138 preemies at the Stanford Hospital.

They fed these data into a computer and created a program that would correlate the data with preemie outcomes.

They tested the accuracy of their program.
How to Write a *Science*NOW

*PhysiScore Study*

• What did they find?
How to Write a *Science*NOW

**PhysiScore Study**

• What did they find?

The program was 96% accurate in predicting preemie death, and 98% accurate in determining the risk of complications like infection and respiratory failure.
Science Stories

How to Write a ScienceNOW

*PhysiScore Study*

• Why do we care?
**PhysiScore Study**

- Why do we care?

Thousands of preemies die every year because the Apgar score said they were fine, and they weren’t.

Hospitals waste billions of dollars treating infants that don’t need to be treated, because the Apgar score said they were in danger, and they weren’t
Science Stories

How to Write a ScienceNOW

Graf 2: Background (i.e. what do we know?)
When it comes to predicting the health of a premature infant, doctors have a few tools at their disposal. The most common is the Apgar score. Developed in the 1950s, the Apgar is essentially a checklist of vital signs—such as skin color and pulse rate—that physicians administer a few minutes after birth. If a baby scores poorly, a nurse may take it to the intensive care unit where the infant will be given oxygen and hooked up to a variety of machines to monitor its health. The Apgar score is only about 80% accurate, however, leading to mistaken diagnoses that kill thousands of preemies and cost $10 billion in wasted hospital resources every year. As an alternative, doctors can draw an infant’s blood, but while the technique is more accurate than the Apgar score it can harm the infant and it takes precious time.
Science Stories

How to Write a ScienceNOW

Grafs 3 - 4: Methods/Results (i.e. what don’t we know, what did they do, what did they find?)
Suchi Saria wondered if there was a way to combine the speed of the Apgar score with the accuracy of blood tests. Saria, a computer scientist at Stanford University, took advantage of the fact that hospitals collect a wealth of data on newborns shortly after birth, including weight, heart rate, and oxygen concentration in the blood—and that all of these values are recorded on computers. If she could create an algorithm to crunch these numbers, doctors might have a better way to predict the health of preemies.

To test her hypothesis, Saria and colleagues collected medical data on 138 preterm infants born at the Stanford hospital in 2005. Some of these preemies developed severe infections and died, while others were just fine. The researchers then created a computer program, called *PhysiScore*, that analyzed the medical data and compared it to the health of the newborns. When Saria and her team tested the final program on the infant data, they found that it was 96% accurate in determining which preemies were going to die and 98% accurate in predicting complications like infections and respiratory failure.
"We were shocked," says Saria, whose team reports its findings today in *Science Translational Medicine*. "The program was nearly perfect." She says that because hospitals are already collecting the data that *PhysiScore* uses, the test is cheaper and faster than other methods used to predict preemie health. And because *PhysiScore* is far more accurate than these methods, it could save countless lives and billions of dollars in wasted medical care.
Science Stories

How to Write a ScienceNOW

Graf 6: Outside Comment
"It's an amazing advance," says Roger Smith, a pediatrician at Harvard University. "I've seen a few other Apgar alternatives, but this is by far the easiest and cheapest one out there. I wish we could start using it in our hospital today." But Penny Jones, a computer scientist at Texas A&M says hospitals shouldn't start implementing PhysiScore just yet. "These computer programs always work great in the lab, but when you try using them in the real world, they always crash," she says. "That's not something you want to have happen when an infant's life is on the line."
How to Write a ScienceNOW

Graf 1: The lede

• A very brief summary of everything above, plus why do we care?
KABUL, Afghanistan (AP) – Two American soldiers were killed Thursday in a shooting by an Afghan soldier and a literacy teacher at a joint base in southern Afghanistan, officials said, the latest in a series of deaths as anti-Americanism rises following the burning of Qurans by U.S. soldiers.

Both were killed on the same day that the top NATO commander allowed a small number of foreign advisers to return to work at Afghan ministries after more than a week of being locked down in secure locations because of the killing of two other Americans.

Thursday's killings raised to six the number of Americans killed in less than two weeks amid heightened tensions over the Feb. 20 burning of Qurans and other Islamic texts that had been dumped in a garbage pit at Bagram Air Field near Kabul. More than 30 Afghans also were killed in violent riots six days of that broke out after the incident.

U.S. military spokesman Lt. Col. Jimmie Cummings said Thursday that Marine Gen. John Allen, the top commander in Afghanistan, approved the return of selected personnel. He could not elaborate which ministries were involved, but an Afghan official said some had returned to a department setting up a government-run security force that will guard international development projects.

The report, a military official said, might also include recommendations for disciplinary action, but those are expected to be included — if necessary — in a more detailed report that will be ready sometime next month. The officials spoke on condition of anonymity because the investigation is still in progress.
Part I
How to Write a Daily News Story
Being Edited
The Editing Process

Writer’s Draft
The Editing Process

Primary Edit
The Editing Process

Top Edit
The Editing Process

Some stories come in in good shape...
The Editing Process

Some stories come in in good shape...

Some don’t.
The Editing Process

Original

Watch outsharp about the “18th century”!

Researchers have discovered the site of a recent mass grave in China. For more than 2,000 years, two tigers were killed and left in a railway embankment in the southern region of China. Although the exact number of tigers is unknown, it is estimated that at least 100 tigers were buried there. In 1990, two researchers, a scientist and an historian, went in search of the tigers and discovered their remains. They were able to excavate the remains of the tigers and provided a snapshot of their existence, which was then shared with the scientific community.

Primary Edit

Researchers have discovered the site of a recent mass grave in China. For more than 2,000 years, two tigers were killed and left in a railway embankment in the southern region of China. Although the exact number of tigers is unknown, it is estimated that at least 100 tigers were buried there. In 1990, two researchers, a scientist and an historian, went in search of the tigers and discovered their remains. They were able to excavate the remains of the tigers and provided a snapshot of their existence, which was then shared with the scientific community.

Top Edit

Researchers have discovered the site of a recent mass grave in China. For more than 2,000 years, two tigers were killed and left in a railway embankment in the southern region of China. Although the exact number of tigers is unknown, it is estimated that at least 100 tigers were buried there. In 1990, two researchers, a scientist and an historian, went in search of the tigers and discovered their remains. They were able to excavate the remains of the tigers and provided a snapshot of their existence, which was then shared with the scientific community.
The Editing Process
The Editing Process

When responding to edits:
The Editing Process

When responding to edits:

• Always use track changes
The Editing Process

When responding to edits:

• Always use track changes

• Respond to questions by changing your text
The Editing Process

When responding to edits:

• Always use track changes

• Respond to questions by changing your text

• Check changes for factual errors
The Editing Process

When responding to edits:

• Always use track changes
• Respond to questions by changing your text
• Check changes for factual errors
• Be pleasant!
Part I
How to Write a Daily News Story
The Lede
Science Stories

Writing

The Lede

• The lede is everything
The Lede

• The lede is everything

• The lede is the first and last chance you have to hook the reader
The Lede

• The lede is everything

• The lede is the first and last chance you have to hook the reader

• The lede tells your editor everything he/she needs to know about you
The Lede

- The lede is everything

- The lede is the first and last chance you have to hook the reader

- The lede tells your editor everything he/she needs to know about you

- The lede is the most important part of your pitch
The Lede

• The lede is everything

• The lede is the first and last chance you have to hook the reader

• The lede tells your editor everything he/she needs to know about you

• The lede is the most important part of your pitch

• The lede is your entire story condensed. If you don’t know how to write your lede, you don’t know how to write your story.
The Lede

Tips for writing ledes:

• Think about what drew you into the story in the first place
Most women love the deep, crooning voice of Frank Sinatra or Johnny Cash. Singing mice are no different: the males’ trills are love songs as well as war cries against rival males. To study why these songs make fangirls go wild...
The "singing" in this video may not be your idea of a pop masterpiece—indeed it may make you want to throw your speakers through the window—but to female mice the sounds are as sweet as the deep crooning of Frank Sinatra. In a new study...
Science Stories

Writing

Typical Lede Structure

• Eye-catching first sentence
Typical Lede Structure
• Eye-catching first sentence

That embarrassing home movie of you naked in the tub could still be around millions of years from now, along with your less-than-eloquent posts on Facebook and Twitter.
Typical Lede Structure
• Eye-catching first sentence
• Summary of study

That embarrassing home movie of you naked in the tub could still be around millions of years from now, along with your less-than-eloquent posts on Facebook and Twitter.
Typical Lede Structure
• Eye-catching first sentence
• Summary of study

That embarrassing home movie of you naked in the tub could still be around millions of years from now, along with your less-than-eloquent posts on Facebook and Twitter. Researchers have developed a new technology based on carbon nanotubes that promises to permanently preserve individual bits of data, such as those found on computer hard drives and DVDs.
Typical Lede Structure
• Eye-catching first sentence
• Summary of study
• Why the study is important / why the reader should care

That embarrassing home movie of you naked in the tub could still be around millions of years from now, along with your less-than-eloquent posts on Facebook and Twitter. Researchers have developed a new technology based on carbon nanotubes that promises to permanently preserve individual bits of data, such as those found on computer hard drives and DVDs.
That embarrassing home movie of you naked in the tub could still be around millions of years from now, along with your less-than-eloquent posts on Facebook and Twitter. Researchers have developed a new technology based on carbon nanotubes that promises to permanently preserve individual bits of data, such as those found on computer hard drives and DVDs. If so, the technology could lead to data archives holding the entirety of human thought and communications potentially forever.
Good Leedes...

- ...make a complex topic instantly accessible

If chemicals were people, uranium oxide would be the guy standing alone with his drink at a party. The world's most commonly used radioactive substance and the heaviest natural element clutches its two oxygen atoms so tightly it almost never reacts with other compounds. Now researchers report finding a way to pry one oxygen atom loose, potentially opening up safer ways to handle and dispose of this nuclear antisocialite.
We humans learn a lot via trial and error—sometimes unpleasantly so. Once you've zapped your finger in an electrical outlet, for example, you're unlikely to do so again. But what if you could learn your lesson without first suffering the bad experience? Scientists have now accomplished this trick in fruit flies.
It's an impressive video. An elderly man in thick eyeglasses and a blue shirt sits in a wheelchair. A therapist sits across from him, off-camera. She tries to get him to say he's thirsty, but he can't produce the words. Several years ago, the man had a stroke that damaged the part of his brain that lets him talk, a condition known as aphasia.
If anything could be more embarrassing than dying while having sex, it might be being preserved in flagrante delicto for millions of years so that members of an advanced species could dig you up, gawk at you, and write a journal paper about your final romantic encounter. For a group of ancient turtles, this nightmare just came true.
Ever since Charles Darwin described the Falkland Islands wolf, biologists have speculated over the canid’s origins. With its red-hued coat and stocky build, the wolf was strikingly different from the wild canids he’d seen on the South American mainland, Darwin wrote in his 1837 Beagle-voyage notebook. And it was the only endemic terrestrial mammal on the two Falkland islands, which lie 480 kilometers off Argentina; there weren’t even rodents, just these coyote-sized canids. The mystery of the wolf’s origins intensified after 1876 when a hunter shot the last one. Since then, biologists have argued about whether the island canids were actually foxes or, like the Australian dingo, recent descendants of dogs that people had brought to the Falklands (see Science 30 September 1977:Vol. 197. no. 4311, pp. 1340 - 1342). Now a research team has used DNA from museum specimens of the wolves, including one that Darwin collected, to solve the puzzle. “They are indeed wolves, and their closest living relative is the maned-wolf (Chrysocyon brachyrurus) from the South American savannas,” says Graham Slater, an evolutionary biologist at the University of California, Los Angeles, and the study’s lead author. The findings, which also point to a North American origin for all South American canids, are reported in this month’s Current Biology.
It's a mystery that stumped even Charles Darwin. How did a red-hued, stocky wolf arrive on the Falkland Islands, a small archipelago nearly 500 kilometers off the coast of Argentina that has no other endemic terrestrial mammals, not even rodents? Any hope of an answer seemed to die with the last Falklands Island Wolf, shot by a hunter in 1876. But now a research team has used DNA from museum specimens, including one that Darwin collected, to solve the puzzle.
A bad lede

It was the sheer unfairness of it all that seemed to gall Americans last month – Detroit automakers ask for $25 billion in public aid and they fly in on corporate jets? "It was very much the reaction, 'these guys haven't been doing their jobs, why do they get to fly those fancy planes,'" says primatologist Frans De Waal. Feeling jealous at the unfairness of it all is only human, some might say. But new research shows that even dogs feel frustrated by inequity – the first time the feeling has been documented in non-primates.
Advice for anyone trying to cheat her dog: He's not so easily fooled. When researchers asked two side-by-side canines to perform a trick—but only rewarded one for his efforts—the other dog soon stopped playing along. The findings show that even dogs are frustrated by inequity—the first time the feeling has been documented in non-primates.
Workshop:
Write a Lede
Integration of Early Physiological Responses Predicts Later Illness Severity in Preterm Infants

If your child is born prematurely, what are the chances that he or she will become sick? Researchers say they have developed a simple way to tell, based on heart rate, breathing rate, and other measurements taken within the first few hours of life. The method—called *PhysiScore*—is more accurate and less invasive than previous approaches, and it could save billions of dollars in health care costs while ensuring that doctors treat the most at-risk children before it’s too late.
Part II

How to Find and Pitch a Daily News Story
How to Find a Story
Finding Stories

• How would you find a story?
Finding Stories

- Press releases
Finding Stories

- Press releases
- Meetings (large and small)
Science Stories

Finding Stories

Finding Stories

• Press releases

• Meetings (large and small)

• Journals (large and small)
Science Stories

Finding Stories

Finding Stories

• Press releases
• Meetings (large and small)
• Journals (large and small)
• Newspapers/magazines/other stories
Finding Stories

- Press releases
- Meetings (large and small)
- Journals (large and small)
- Newspapers/magazines/other stories
- Sources
Finding Stories

• Press releases
• Meetings (large and small)
• Journals (large and small)
• Newspapers/magazines/other stories
• Sources
• During interviews
Finding Stories

• Press releases
• Meetings (large and small)
• Journals (large and small)
• Newspapers/magazines/other stories
• Sources
• During interviews
• There is always a story
Where we find our stories
How to Find a Story: Press Releases


• Sign up for press releases from journals and organizations you're interested in (AVMA, NRDC, etc.).
How to Find a Story: *Beyond Press Releases*

"The big obvious stories are probably already taken... keep an eye out for cool stories in smaller journals, or ones that don't send out regular press releases. You can sign up to get emails when journals publish new tables of contents; some post new stuff online daily or frequently at irregular intervals, so just be alert." –E. Youngsteadt

- Peruse specialty content: arXiv.org, American Journal of Psychology, etc.

- Read specialty journals (*Icarus* → Saturn's hexagon; Ethology; International J. of Obesity)

- Go beyond press releases for bigger journals (*PLoS ONE* → bat fellatio)
How to Find a Story: Other Places to Look

• Go to meetings, especially smaller, local meetings

• Peruse the newspaper: "Build on news stories by asking if there's something that the main stream coverage missed or twisted." – Jon Cohen
How to Find a Story: Use Your Sources

• "The easiest way to find a good story is to pick the brains of interesting people. Simply ask: What's a great, untold story, the kind of thing you'd tell at a dinner party?" – Jon Cohen

• "Talk to grad students, who often know everything, are voluble, and have time to help.” – Jon Cohen

• Keep in touch with sources. Ask them what else they are working on, or what the hot new upcoming topic in the field is. "If I’m interviewing somebody, I always let them go off on tangents. New stories often come from digressions in stories I’m already writing." – Rebecca Skloot
How to Find a Story: Other Ideas

• Develop a beat. Become known for covering certain topics. Sources will contact you.

• Stories are everywhere: "My favorite example of this is the story I did on fish medicine for The New York Times Magazine. I was at the vet with my dog; a doctor came into the room pulling off his exam gloves, and another vet asked how his surgery went. His response: ‘Great, patient’s up, swimming around.’ I walked across the room and said, ‘Excuse me, did you say your patient is swimming?’ I proceeded to interview him about fish surgery for nearly an hour with my dog standing next to me while I scribbled notes on my vet bill.” – Rebecca Skloot (also: Fascia)
Pitching
Pitching: Pick the Right Outlet

“Get good and familiar with your target outlet before you pitch to them. Imagine your story in the style of that outlet. Does it work?” – E. Youngsteadt

- **Know the outlet**: does it cover the field you are pitching, does it run stories of the length you are proposing, is its audience the same as your intended audience?

- **Find out what the outlet needs**: peruse recent stories, look for gaps in coverage, e-mail the editor

- **Know who to pitch to**: "Pitch to an associate, assistant or senior editor instead of the editor-in-chief, executive editor or managing editor, who truly are too busy to read queries from new writers and aren’t always as on-the-lookout for new talent." – Rebecca Skloot
A writer who didn’t know the outlet:

- I also have two story ideas, one about a recently published study, and the other about an upcoming conference. I have pasted the two brief pitches below:

  1) Improving Medical Communication over the Telephone

  A recent study from the Yale School of Medicine investigates how medical doctors can improve communication with patients over the phone. Poor doctor-patient communication has been associated both with medical errors and increased risk of malpractice lawsuits. This study investigated and documented how some simple changes in procedure, such as having doctors ask patients if they are alone in the room when talking, improves communication.

  This story is timely because it was just published in this month’s issue of the Journal of General Internal Medicine. It addresses an important issue both to the medical profession and to the general public.
The Pitch

Elements of a good pitch

• Pitch in advance of public release, if possible
• Why do you think the discovery is important / exciting?
• Why do you think the story would work for the outlet?
• Why would you be a good writer for the story?
• Write a sample lede
• Summarize the study
• Include embargo date, publication date, and original press release (if available)
• Talk to an outside expert (optional)
• Write “Pitch” in the subject line!
Pitching: Good Pitches

Pitch: Researchers Find Antibiotic Resistant Bacteria on Antibiotic-Free Meat

If you're paying premium prices for antibiotic-free meat, then you might also expect that your steak -- or pork chop or chicken breast -- is free of antibiotic-resistant bacteria. However, a new study that’s about to be published in PLoS ONE finds that this is not always the case. Researchers who compared grass-fed versus conventionally-raised farm animals discovered Methicillin-resistant Staphylococcus aureus, one of the world’s most dangerous drug-resistant microbes, in similar quantities in meat sold from both animals. So consumers buying products labeled “no antibiotics added” may not be getting what they’re paying for—and the government may have to rethink how it regulates this meat.

This story is embargoed for 5 PM EST next Friday. The press release is below, and I have attached the article. I'm a science journalist who has written for WebMD, Nature, and Discover. I've written about the public health and regulatory aspects of antibiotic use in food animals for the Los Angeles Times.

Thanks for considering my pitch. I look forward to hearing from you.
Hi David,

Funny thing about hydrogen evolving, water-splitting catalysts: most are pretty picky about the conditions they'll work in. Some require helper molecules, like acids or organic compounds. Some need absolutely pure water to work, an extra step which adds to their cost. Others are delicate, falling apart after only a few catalytic cycles, or are robust but prohibitively expensive. But not this one. Jeffery Long and coworkers created a molybdenum based water-splitting catalyst that can work in dirty water and has higher catalytic activity than any known pure water catalyst. It's also cheap, making more hydrogen gas for the buck out of easily available water, which can then be burned to make power, plus pure water as a byproduct. It's truly clean, truly renewable, and at long last to starry-eyed alternative energy scientists, truly here.

The study will be published in next week's Nature, embargo date Wed, April 28th, 1 pm EST. The last time ScienceNOW did a story about water-splitting catalysts was in August of 2007 (http://news.sciencemag.org/sciencenow/2007/08/20-03.html), and this one is more of a breakthrough. If you want to pick the story up, I was planning on getting comment from Dan Nocera at MIT, since he's the reigning king of water-splitting catalysts. Would this be a problem, since he was used to vet the 2007 article? Also, full disclosure: he's my PhD grandfather (my PI's old adviser). Would this be considered a conflict of interest? I've honestly only met him once, and very briefly. I don't think we actually spoke, it was more of a nod-type thing.
I came across an interesting research article the other day and thought it might make a good ScienceNow item. Researchers studying the Lost City hydrothermal vents in the mid-Atlantic have found that the Archaea Methanosarcinales is differentiating morphologically and functionally in biofilms in order to take advantage of the availability of both methane and hydrogen. Methanosarcinales is by far the most dominant microbial phylotype in the local environment. The authors note that this sort of differentiation in what was considered a unicellular and homogeneous population is quite unusual, and that the hydrothermal field itself is quite different from the black smoker type, being based on transformation of olivine to serpentinite and magnetite rather than sulfide chemistry. The authors further note that environments similar to the Lost City may have been widespread during the earliest appearance of life on earth.
Hi Dave-

What about this one for a SNOW? Seems neat to me.

- - -

EMBARGOED: NOT FOR PUBLIC RELEASE BEFORE 5 P.M. ET MONDAY, JANUARY 31, 2005

If you need assistance, please contact the PNAS News Office at 202-334-1310, or e-mail <PNASnews@nas.edu>.

-------------------------------------------------------------

Grammar Rules Emerge Quickly, Spontaneously in New Language
Pitching: Other Tips

• Don’t expect editors to assign you stories off the bat

• Always write “Pitch” or “Query” or something else in the subject line to differentiate your pitch from the millions of press releases an editor gets.

• Pitch in advance of public release, if possible

• Don’t call. “Pitching over the phone makes you appear inexperienced and runs the risk of annoying an editor to the point where he/she won’t read your ideas once you send them.” – Rebecca Skloot
How to Keep Your Editor Coming Back

• Don’t submit stories as “drafts”: be happy with the copy you turn in.
• Don’t send multiple drafts
• Work well with the editor during the editing process. Be pleasant, accommodating. (Nathan Collins)
• Be on time, be available, be responsive
• Be accurate! Challenge mistakes.
• Follow up after the story has been published
• Promote the story
• When an editor asks you to do a story, always say “Yes!”
Tips for web writing

- Think electronic: multimedia, animations, sound, hyperlinks
- Attention spans are shorter on the web: get to the point quickly, keep paragraphs short
- Art is essential: the web is a visual medium
- Timing is everything
Other Resources

Books
• Associated Press Guide to News Writing
• The Science Writers’ Handbook

Organizations
• NASW
• DCSWA or local science writing group
THANKS!