No Ship, Sherlock?

Holmesian Diagnostics for a Nautical Model
Hello
Hello
Case

2 year old boy - Ben

Non-specifically unwell today
Fever 4 days ago
Lethargic

o/e: Weak cry, “NQR”
Afebrile, normal vital signs
No positive findings in systems
Diagnostic process
Let’s get Nautical
Let’s get Nautical
Let’s get Nautical
Let’s get Nautical
Let’s get Nautical
Let’s get Nautical

Attitudes

Skills

Knowledge
Helpers
Helpers
Helpers

pics: keysvoices.com, juniormagazine.co.uk, livingsocial.com
Helpers
Hindrances
Hindrances
Hindrances
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Hindrances
Hindrances
Hindrances
Hindrances
Cognitive errors

How Doctors Think

Jerome Groopman, M.D.
Cognitive errors

Anchoring
Diagnosis momentum
Commission bias
Satisfaction of search
Availability error
Attribution error
Confirmation bias
Prototype (representativeness) error
Cognitive errors

Anchoring – early decision based on a single feature

pics: gradywhite.com, drtonymyers.blogspot.com
Cognitive errors

Diagnosis momentum – accepting existing diagnosis
Cognitive errors

Commission bias – action preferred to inaction
Cognitive errors

Commission bias – action preferred to inaction

 pics: indybay.org, latimes.com
Cognitive errors

Satisfaction of search – stop looking after first find
Cognitive errors

Satisfaction of search – stop looking after first find
Cognitive errors

Availability error – recent (standout) diagnoses easy to choose

 pics: ajilbab.com, lovelifeoftheoctopus.blogspot.com
Cognitive errors

Attribution error – stereotyping patients
Cognitive errors

Confirmation bias – ignoring data that does not fit
Cognitive errors

Confirmation bias – ignoring data that does not fit

The answer is clearly NO!
Cognitive errors

Prototype error – atypical case (pattern recognition fails)
Cognitive errors

Prototype error – atypical case (pattern recognition fails)

Unusual presentation of a common condition
Cognitive errors

Anchoring – early decision based on a single feature
Diagnosis momentum – accepting existing diagnosis
Commission bias – action preferred to inaction
Satisfaction of search – stop looking after first find
Availability error – recent (standout) diagnoses easy to choose
Attribution error – stereotyping patients
Confirmation bias – ignoring data that does not fit
Prototype error – atypical case (pattern recognition fails)
Remedies

What else could it be?

Does anything not fit?

Could there be more than one process at work?
Sherlock Holmes
Sherlock Holmes

Extensive Knowledge
Acute observational skills
Deductive reasoning
Elimination

“When you have excluded the impossible, whatever remains, however *improbable*, must be the truth”
Consider ALL possibilities
Brainstorming
Brainstorming

RULES:

• Reach for Quantity
• Defer judgement

Quantity breeds quality
Put criticism on hold
Welcome unusual ideas
Scribbles...

Unwell:

Lethargic/weak:

Recent fever:
Scribbles...

**Unwell:** trauma, NAI, Munchausens, poisoning, liver failure, behavioural, breath-holding, viral,

**Lethargic/weak:** dehydration, low sugar, metabolic, sodium, acidosis, vagal, dysrhythmia, SVT, hypoxia, Tet spells, stroke, post-ictal, cerebral oedema, intussusception, gastro,

**Recent fever:** sepsis, UTI, pneumonia,
Scribbles...

**Unwell:** trauma, NAI, Munchausens, poisoning, liver failure, behavioural, breath-holding, viral, arboviruses, Ross-River Virus, Dengue fever, DKA, ischaemic gut, measles, Kawasaki disease

**Lethargic/weak:** dehydration, low sugar, metabolic, sodium, acidosis, vagal, dysrhythmia, SVT, hypoxia, Tet spells, stroke, post-ictal, cerebral oedema, intussusception, gastro, VIPoma, hypertensive encephalopathy, space-occupying lesion, torticollis, DIMTOPPE, thyroid, appendicitis, volvulus, pyelonephritis, GI bleed, lymphoma, leukaemia, hepatitis, chronic fatigue

**Recent fever:** sepsis, UTI, pneumonia, meningitis / encephalitis, cyclical neutropenia, hyper-IgD
**Differentials, Evaluation, Action**

**Unwell:** trauma, NAI, Munchausens, poisoning, liver failure, behavioural, breath-holding, viral, arboviruses, Ross-River Virus, Dengue fever, DKA, ischaemic gut, measles, Kawasaki disease

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Recent fever: sepsis, UTI, pneumonia, meningitis / encephalitis, cyclical neutropaenia, hyper-IgD

Social History

Travel History

Family History

BP

glucose

fundi

FBC, LDH

CXR

abdo

??LP

urinalysis
A Map and a Plan
A Map and a Plan
If you hear Neighing...
If you hear Neighing...
Case

2 year old boy - Ben

Non-specifically unwell today
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o/e: Weak cry, “NQR”
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Resolution
Resolution
Summary

• Good clinical care is affected by **many factors**
• The **diagnostic process** has several **cognitive traps**
  • *Pattern recognition* does not always work
• To find an **improbable** diagnosis, we may need to consider **ALL** the possibilities
• **Brainstorming** is a useful creative technique to explore unfamiliar territory
• We may settle on an **unusual presentation** of a **common** condition
Find out more...

Jerome Groopman
ACPinternist.org
KevinMD.com

The Complete Sherlock Holmes by Arthur Conan Doyle

Brainstorming - Wikipedia.org
Find out more...

Investigation of Pediatric Headaches
In Noggin-cast part 2, we explore the relevant literature with regard to investigating headaches in children. No magic answers yet, but we discovered a few useful tips along the way... and found a handful of references you can impress your colleagues with. When faced with a worried family, we all would like to offer the appropriate reassurance, or do the appropriate test - without being...

Headaches in kids
Pediatric Emergency Departments see a few children a day with headaches. So how do we pick out the serious ones? In this “noggin-cast” we explore the causes of headache, including Primary headache like migraine and tension headache, secondary headaches from viral illness, and a few other strange ones... Headache PEMcast [31:39]

Appendicitis tests in children
It seems that this one slipped under the radar, when we originally published it... Because I followed it with a tongue-in-cheek summary post about the (lack of) utility of tests for appendicitis, and did not leave enough of a gap between the two posts, iTunes only picked up the abbreviated joke version, leaving...
Thank you