

# Knowledge from research (evidence)

Many patients want more information and responsibility; in some groups it is the majority

The average consultation time does not permit all the information transfer that is desired

Patients have different preferred consulting styles; clinicians are not good at identifying the preferred consulting style

Many clinicians do not understand the difference between absolute and relative risk

Patients find it easier to communicate with computers than with some of the clinicians they meet

Educational levels are less important than was thought

Value need to be addressed in preference decisions

# Knowledge from experience(mistakes)

The education of patients is easier than the re-education of clinicians

Many patients are more intelligent than clinicians

Clinicians are always behind the Zeitgeist

The patient is the only person present throughout their care

An understanding of biochemistry is not necessary for making crunch decisions

Writing clearly for patients helps clinicians understand

# Conclusions

Make everything open to everyone

Build knowledge into the care pathway

Provide decision support, particularly for preference decisions

Use every medium

Make everything open to everyone

# Take the first look

Here is a preview of NHS Choices before our public launch. We are currently testing the service to make sure everything works properly.

[help using NHS Choices](#)

## Help build NHS Choices

It's a new service for you, help make it better.

Tell us what you think



## Live well

**Get more** out of life with lots of great ideas to help you eat, sleep and breathe a little more freely

## Health A-Z

**Make better choices** about your health. Access in-depth information on over 850

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## NLH HEALTH NEWS

[RSS](#)

### NLH - Hitting The Headlines

- 26/10/07

## SEARCH RESOURCES

Title  Title and text

All  Evidence Based Reviews  Guidance  Specialist Libraries  Books and Journals

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## RESOURCES

### Evidence Based Reviews

[Cochrane Library](#), [DARE](#), [HTA Database](#), [NHS EED](#), [ReFeR](#)

### Guidance

[CKS](#) (incorporating [Prodigy](#)), [National Library of Guidelines](#), [NICE Guidance](#), [Protocols and Care Pathways](#)

### Specialist Libraries

Collections of the best available evidence for different communities of practice

## Clinical Knowledge Summaries

*practical, reliable, evidence-based, a central resource for the National Library for Health.*

A source of clinical knowledge for the NHS about the common conditions managed in primary and first contact care.

Practical and reliable, it helps healthcare professionals confidently make evidence-based decisions about the healthcare of their patients and provides the know-how to safely put these decisions into action.

### DID YOU KNOW: St

#### Clinical knowledge



#### What's new: 25 Oct 2007

Updated topics - October  
 CKS access through mobile devices  
 Chronic Non-Malignant Disease NKW  
 Drug Safety Update

[More >](#)

#### Patient information



#### KnowledgePlus



#### My CKS

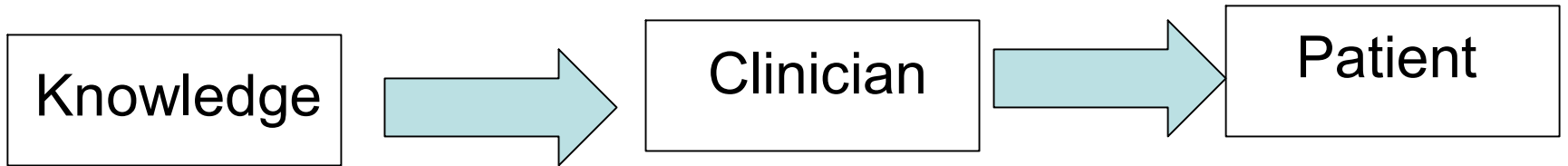


#### Communities



Build knowledge into the care pathway





20th century



21st century

Offers reflection

Knowledge

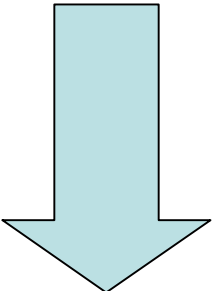


Patient

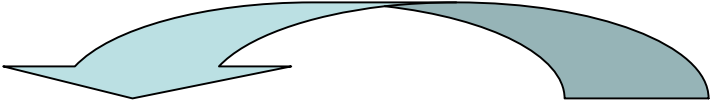


Clinician

Seeks advice



WWW



“The false positive rate [for Hepatitis C] is especially important in low prevalence settings where the number of false positives may exceed the number of true positives”

Booth JCL et al (2001)

Gut 49 (Suppl 1) i4 column 1

Section 3.1 lines 23-27

HCV infection is associated with a large proportion of HCCs. In southern Europe and Japan, 50–75% of HCCs are associated with HCV.<sup>53–55</sup> HCV may cause HCC as a consequence of cirrhosis or as a result of chronic necroinflammation rather than having any direct carcinogenic effects. Unlike HBV, HCV does not integrate into the host's DNA. The majority, if not all, of patients with HCV associated HCC have established cirrhosis. Both HBV coinfection and excess alcohol seem to have an additional effect on the development of HCC.<sup>53–55</sup>

The natural history of disease progression is slow in HCV related liver disease with estimates of 20–30 years' duration of infection prior to the development of HCC.<sup>56</sup> In patients with established cirrhosis the rates of development of HCC range between 1% and 7% per year.<sup>57–59</sup> The role of antiviral therapy in preventing the development of HCC in HCV infected cirrhotics is controversial.<sup>60</sup>

### 3.0 Diagnosis

#### 3.1 DIAGNOSTIC SEROLOGICAL ASSAYS

The discovery<sup>61</sup> of HCV in 1989<sup>62</sup> led to the development of an antibody diagnostic assay based on viral recombinant peptides. The first generation tests incorporated a fused antigen of human superoxide dismutase (SOD) and HCV polypeptide (C100-3) used in an enzyme linked immunosorbent assay (ELISA).<sup>63</sup> The first generation assay lacked sensitivity and specificity prompting the development of second generation assays incorporating antigens from the nucleocapsid (C22) and NS3 (C33) genomic regions. Third generation assays (ELISA-3) have since been introduced incorporating antigens from the putative nucleocapsid, NS3, NS4, and NS5 regions. ELISA-3 tests have a sensitivity of 97% and have shortened the mean time to seroconversion by 2–3 weeks.<sup>64</sup> ELISA-3 tests are now the most widely used screening tests for HCV<sup>65–68</sup> but despite the improved specificity, confirmation of positive results is still required as a significant proportion of positive tests will represent false positive results. The false positive rate is especially important in low prevalence settings where the number of false positives may exceed the number of true positives.

A positive ELISA test in a patient with chronic liver disease is probably enough to diagnose HCV infection and a confirmatory antibody test may not be needed. Confirmatory PCR testing of serum for HCV RNA is suggested for this group of patients.

- Patients with suspected HCV infection should be tested for anti-HCV by an up to date (currently third generation) ELISA

results. A first generation immunoblot assay (RIBA-100) was developed with separately immobilised C100-3, 5-1-1, and SOD antigens.

Second generation RIBA tests were developed with antigens from nucleocapsid (C22) and NS3 (C33) in addition to C100-3 and 5-1-1. Both chimpanzee<sup>69–70</sup> and human studies<sup>71–74</sup> have suggested that second generation tests allow earlier detection of HCV infection in acute cases and are more frequently positive in chronic cases. A positive second generation RIBA result is associated with HCV viraemia by PCR in 88–98% of cases.<sup>75–77</sup>

A positive RIBA test is associated with reactivity with two or more of the antigens, and in the majority (63%) of cases<sup>78</sup> reactivity to all four antigens is detected. An indeterminate result shows reactivity to any one antigen. Several studies have shown that reactivity with c100-3 or 5-1-1 alone is rarely associated with PCR positivity and can be regarded as falsely positive.<sup>79–82</sup> The majority of patients with lone antibody to c33 and about half of those with antibody to c22 will be PCR positive and therefore represent true positive results.<sup>83–86–88–91–92</sup>

Third generation RIBA tests have been developed incorporating synthetic C22 and C100-3, recombinant C33, and a recombinant NS5 antigen expressed in yeast to replace 5-1-1. This later version has been shown to be positive in most RIBA-2 indeterminate cases<sup>89–90</sup> and to correlate better with HCV viraemia.<sup>91</sup> However, despite the improved sensitivity of this test, indeterminate results have been observed and HCV RNA is detected in 58% of these cases.<sup>92</sup> Thus patients with indeterminate RIBA-3 results must be evaluated for evidence of viral replication and liver disease.

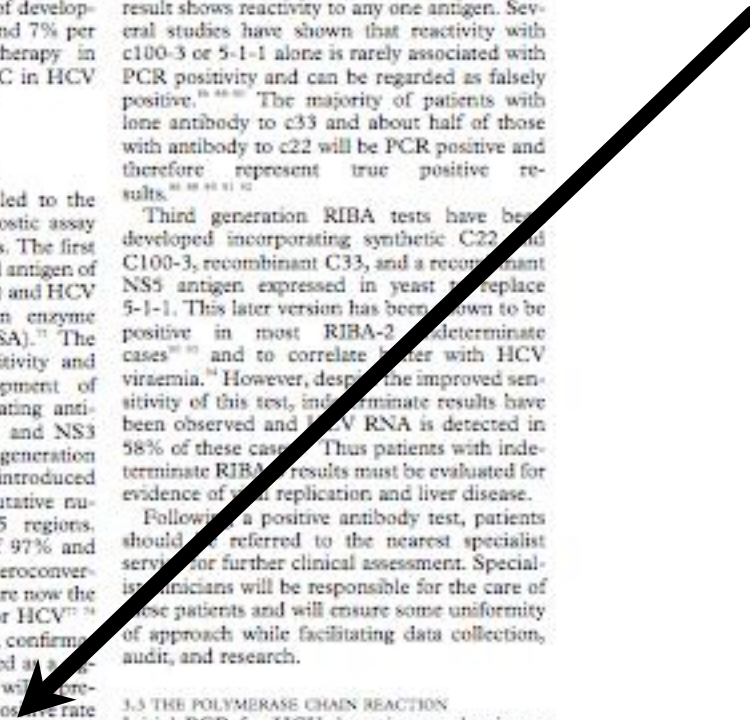
Following a positive antibody test, patients should be referred to the nearest specialist service for further clinical assessment. Specialist clinicians will be responsible for the care of these patients and will ensure some uniformity of approach while facilitating data collection, audit, and research.

#### 3.3 THE POLYMERASE CHAIN REACTION

Initial PCR for HCV detection used primers derived from heterogeneous non-structural regions of the virus. The development of primers from the highly conserved 5' non-coding region greatly enhanced the detection of HCV RNA by PCR.<sup>93</sup> The sensitivity of PCR detection was further enhanced by the development of PCR primers producing shorter PCR products.<sup>94</sup> The sensitivities of most PCR assays is in the range of 500–1000 equivalents per ml.

Direct detection of the virus using PCR is needed in patients recently infected with the virus and in immunosuppressed individuals who may be antibody negative. In addition,

What it really looks like



# Royal Cornwall Lab Service

Muir Gray    21/06/1944    NHS number 400 186 6897

ELISA25.5

Hepatitis C is of low prevalence in Cornwall. National guidance is that diagnosis should be confirmed by PCR test in low prevalence populations

For PCR test click [here](#)

For access to full text of guidance click [here](#)

To test your knowledge in one minute click [here](#)

Provide decision support, particularly  
for preference decisions

Muir Gray has familial hypercholesterolaemia

Every six months he receives an email reminder  
from the lab to have a blood test

He receives 2 SMS reminders if no blood sample  
is received within 2 weeks

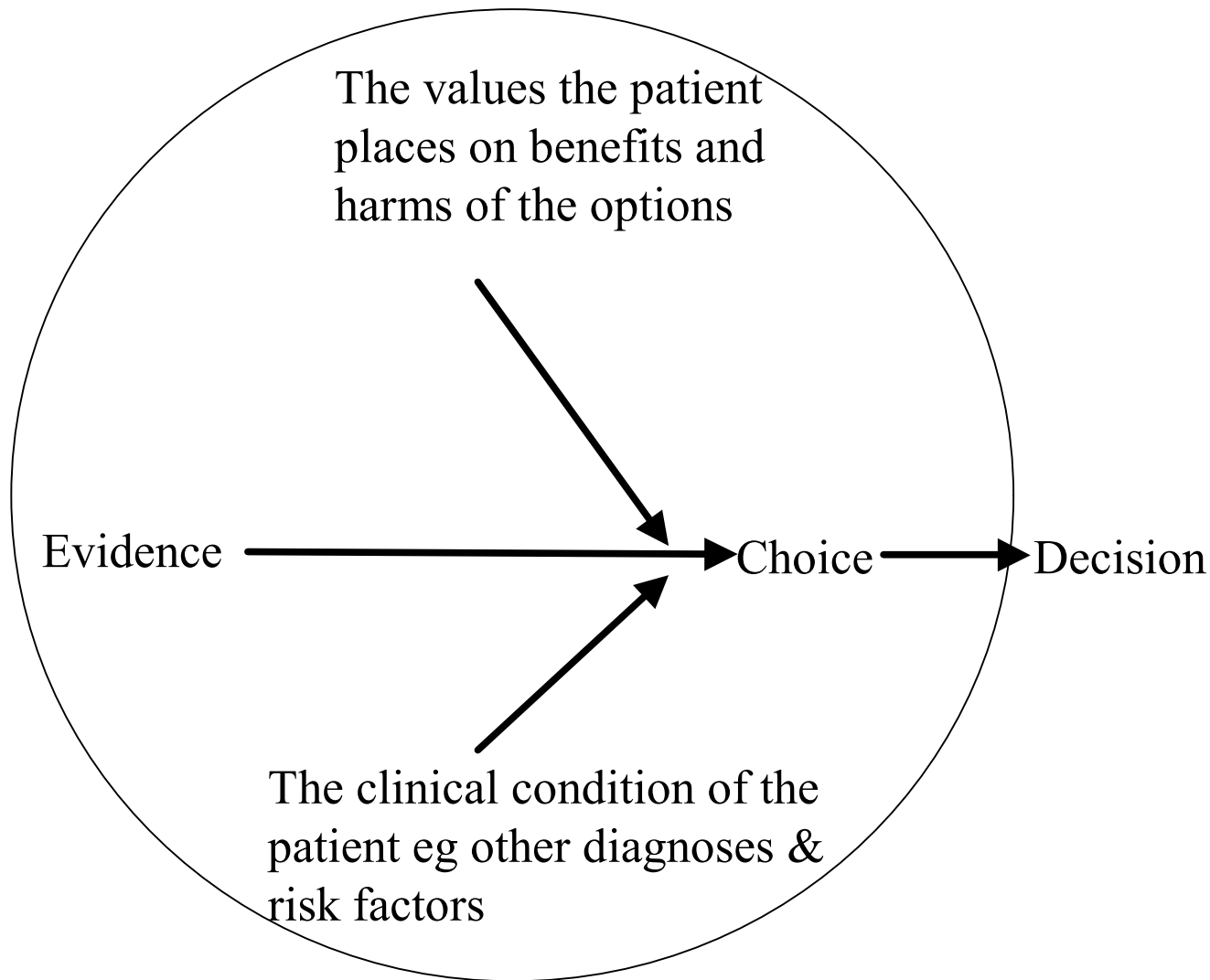
If no specimen is received his GP receives a copy  
email

If there is a result is sent to the GP and to his  
Healthspace where it is stored in sequence

Appropriate advice and support is automatically  
generated, for example.....



The nearest place to buy a big  
dog



Patient decision aids allow the patient to reflect on the options based on the evidence, as it relates to their particular condition, and their values

- Overview
- Unwarranted Variation
- Shared Decision-Making



United Kingdom

Health Dialog UK, Ltd.

*“People (are) wanting a different approach and services, looking for real choices, more local care, taking greater control over their health, support to remain independent...” (Patricia Hewitt, Health Secretary; Our Health, Our Care, Our Say: a new direction for community services; Department of Health, January 2006)*

**BACKGROUND**

To help individuals become more involved in their healthcare, it is critical that they have the information, support and skills they need. Health Dialog is founded upon the idea that when individuals are more actively engaged in managing their care with their clinicians, they are more satisfied with their care, quality goes up, outcomes improve, and utilisation on average goes down. The underpinnings of this concept is what we call **Shared Decision-Making**.

Use every medium

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### book list

A new look at medicine and politics (1966)  
J. Enoch Powell  
★★★★★★

Administrative Behavior, 4th Edition (1997)  
Herbert A. Simon  
★★★★★★  
classic; decision making

An Introduction to Quality Assurance in Health Care (2002)  
Avedis Donabedian  
★★★★★★  
classic; quality

Beginnings count : the technological imperative in American health care (1997)  
David J. Rothman  
★★★★★  
policy

Best and Brightest (1973)  
David Halberstam  
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**Sir Muir Gray**



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# The Resourceful Patient

J A Muir Gray



