This fact sheet is intended as a guide for health professionals who are involved in providing information to women on receiving a ***reactive HIV result in pregnancy.*** *This information is to be used alongside the All Wales Protocol for the Management of HIV reactive results in pregnancy and as an aid in the discussion with women on their "reactive" HIV results. The information for women leaflet 'reactive results in pregnancy' should be provided to the woman at the same time as she is informed of her result.*

The term "reactive" is used throughout this factsheet and indicates when there is a reaction to the screening test. An initial reactive test result will need confirmatory tests to diagnose or refute a positive test result.

What is Human Immunodeficiency Virus (HIV)?

Human Immunodeficiency Virus (HIV) is a blood borne virus. It is a virus that infects and damages T-lymphocytes, resulting in immune suppression that eventually leads to acquired immune deficiency syndrome (AIDS).

Two forms of the virus have been identified, HIV-1 and HIV-2. Worldwide, the predominant virus is HIV-1, and generally when people refer to HIV without specifying the type of virus they will be referring to HIV-1.

The relatively uncommon HIV-2 type is concentrated in West Africa and is rarely found elsewhere.

What does the HIV test identify?

The test that has been carried out identifies:

- HIV-1 antibody
- HIV-2 antibody
- HIV p24 antigen.

These tests are termed fourth generation assays and have the advantage of reducing the time between infection and testing HIV positive to one month. Using fourth generation assays in a low risk population (such as most women receiving antenatal screening) has resulted in an increase in the number of reactive (unclear) test results.

How accurate is the HIV test?

This test is more than 99% sensitive and specific for the detection of HIV antibodies.

- 99% of the results will be positive when HIV is present (sensitivity)
- 99% of the results will be negative when HIV is not present (specificity).

However, in approximately 1:1000 samples the test can detect other antibodies in the blood and not be able to distinguish if they are HIV antibodies. This is what is termed as 'non-specific' reactivity and is what is known as having a false positive result.

A false positive result means that the test incorrectly indicates that HIV is present in a non-infected person.

What causes non-specific reactivity?

This is a relatively uncommon problem, but can result from:

- new antibodies detected due to a recent mild illness such as a cold
- the blood sample was not transported to the laboratory at the correct temperature, this can cause the blood cells to break down
- other unknown causes.

What is a negative result?

A negative result is issued if the initial laboratory test (screening test) is non-reactive. This will be the definitive result for this test.

What is a positive result?

A positive result is when:-

- the initial laboratory test is reactive and,
- both the confirmatory tests on the initial sample are also reactive.

A positive result will only be issued from the laboratory if all of the confirmatory tests are reactive. However this would be a presumptive positive test result: a new HIV diagnosis should ONLY be made after a second sample is taken from the woman to ensure that there have been no errors with sample identity.

What is a reactive test result?

If the initial laboratory test is reactive then a further two separate tests, using different methods, will be undertaken **on the initial** blood sample. A reactive test result is reported if either:-

- both of the confirmatory tests on the initial sample are non-reactive or
- one of the confirmatory tests is reactive and one non-reactive.

Result reporting

1. The **initial test reactive** and the 2 **confirmatory tests negative**:

"Initial screen result reactive, most probably due to non-specific reactivity. Please send a further sample in 3-5 weeks to confirm the absence of infection".

2. The **initial test reactive** and also **1 of the 2 confirmatory tests reactive**:

This serological picture is rare but is also more difficult to interpret and the Virologist/Microbiologist will give a specific wording for the report that could be used in each case. (The most likely scenario is still that of non-specific reactivity, however the possibility that this is a very recently acquired infection needs to be given consideration and a detailed review of any of the risk factors should be made).

Care following a reactive result

A repeat sample will be requested from the woman to be able to provide her with a definite test result.

The antenatal screening co-ordinator will assess if the woman has any of the following risks and inform the laboratory accordingly to enable the woman to receive re-testing in the most appropriate timeframe.

- Resident or recent resident of Sub-Saharan Africa
- Sexual partner of resident or recent resident of Sub Saharan Africa
- Asylum Seeker or victim of trafficking
- Multiple partners (including sex working)
- Rape victim
- Sexual partner known to have HIV
- Born in a country with high prevalence of HIV

If the risk history cannot be made from the hospital notes (hard copy or e-copy) the antenatal screening co-ordinator will need to discuss this with the woman and the Virologist/Microbiologist and take advice as to when the repeat test should be taken.

Most women with 1 reactive test result-

- will be identifiable as low risk from their hospital notes and the re-test will be performed (alongside checking their history risk) during their next routine antenatal appointment.
    - Screening before 13 weeks of pregnancy- retest at the routine 16 week appointment by the community midwife ie approximately 3-5 weeks after the initial screening test.
    - Screening after 15 weeks of pregnancy- retest would be performed at the next routine antenatal appointment.

Women with 2 reactive test results-

- will need to have a risk assessment and repeat bloods taken, but it is usually not appropriate to wait for 3-5 weeks in this case.
- the Virologist/Microbiologist will inform the antenatal screening co-ordinator directly of the result and discuss an appropriate timeframe for the repeat testing and which bloods need to be performed.

Why is there a need to delay performing the repeat sample?

HIV antibodies can take up to a further 3 weeks to become fully detectable after the first sample has been analysed.

Could this be a newly acquired HIV infection?

A recently acquired HIV infection in pregnancy will be an extremely rare event in Wales and the vast majority of these reactive results detected on 1 or 2 of these tests will, on further testing, be a negative HIV result.

In order to manage women with these reactive results safely, consistently and with minimum uncertainty, consideration needs to be given to individual women's risk factors for acquiring HIV (see table above).

Suggested wording on how to discuss HIV reactive results

- The woman should be informed that receiving a reactive result does not mean that she has HIV.
- A test result that is reactive is most probably due to an insignificant antibody detected by the test which is probably not the HIV antibody.
- She should be informed that it is the assumption that she will receive a negative result on re-testing.
- She should be regarded as HIV negative until her status is confirmed by a repeat.
- Use the word reactive, not equivocal or false positive.
- Sometimes a woman will need to have more than one repeat sample to be able to provide her with a definite result and she should be informed of this at the time of her re-test.
- Provide the woman with the ASW Information for women leaflet at the same time as giving the verbal information.
- Ensure that a local pathway is in place to ensure that there is a process for results handling and giving of the results within a timely manner.

Further information is available from

- Local Integrated Sexual Health (GUM) department.
- Consultant Virologist/Consultant Microbiologist in the Health Board.