

Clinically Significant Antibodies in Pregnancy

Matt Hazell

Red Cell Immunohaematology



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Available information

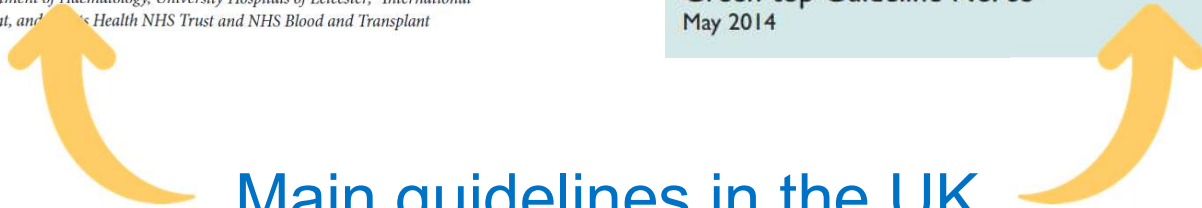


Guideline for blood grouping and red cell antibody testing in pregnancy

White, J¹ Qureshi, H² Massey, E³ Needs, M⁴ Byrne, G⁵ Daniels, G⁶ Allard S⁷ & British Committee for Standards in Haematology

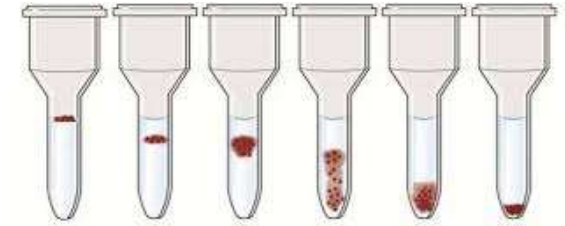
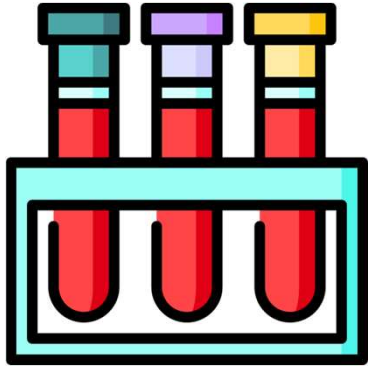
¹UK National External Quality Assessment Scheme for Blood Transfusion Laboratory Practice, Watford, ²Department of Haematology, University Hospitals of Leicester, ³NHS Blood and Transplant & University Hospitals Bristol NHS Foundation Trust, ⁴Institute of Biomedical Scientists and NHS Blood and Transplant, ⁵Department of Haematology, University Hospitals of Leicester, ⁶International Blood Group Reference Laboratory, NHS Blood and Transplant, and ⁷Health NHS Trust and NHS Blood and Transplant

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Main guidelines in the UK

Approximately 1% of pregnant women have clinically significant antibodies



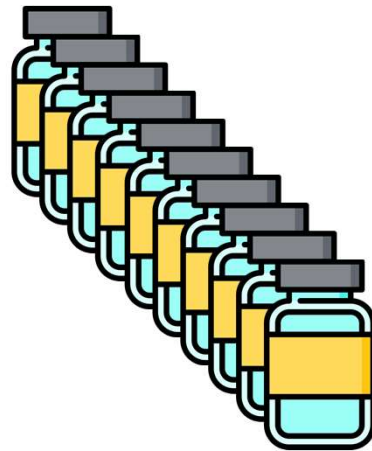
What standard testing is performed for antibody detection in the UK?



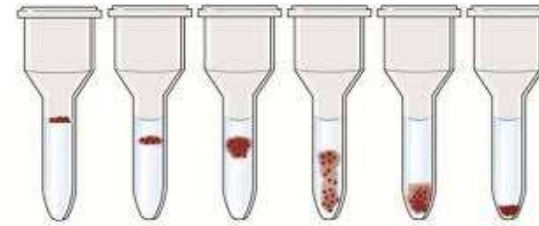
What standard testing is performed for antibody detection in the UK?



Antibody screen
2 or 3 cell



Antibody
identification



Antibody
titration



Antibody
Quantification

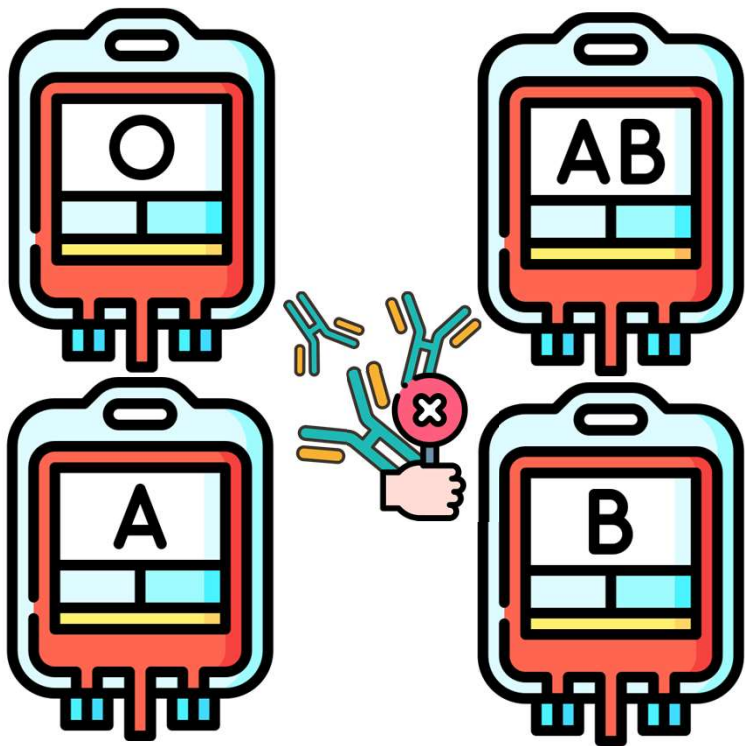
Guide referral to fetal
medicine; management of
pregnancy and intervention



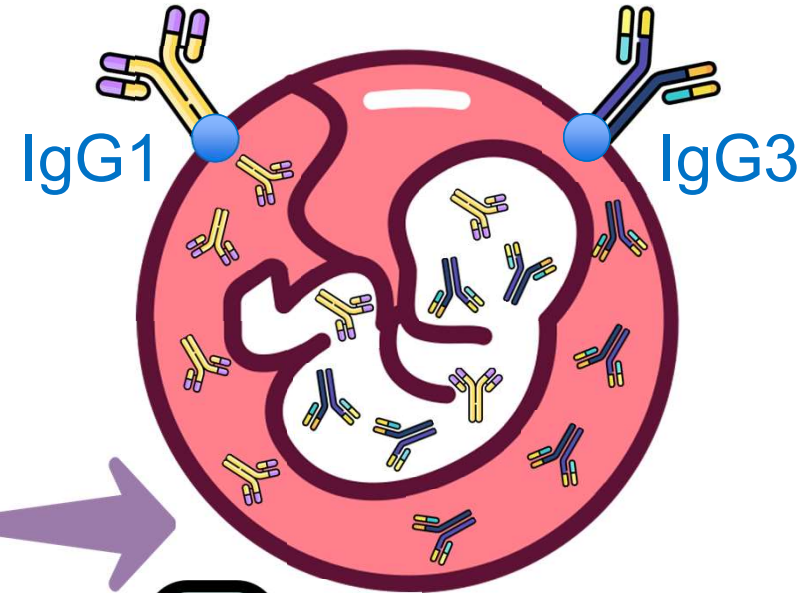
What makes an antibody clinically significant in pregnancy?



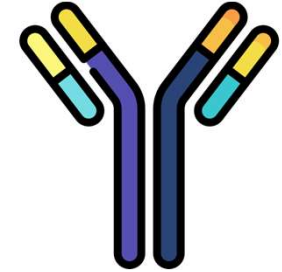
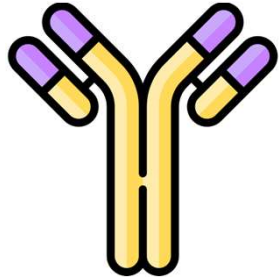
What makes an antibody clinically significant in pregnancy?



ABO D and K compatible
Negative for known alloantibodies



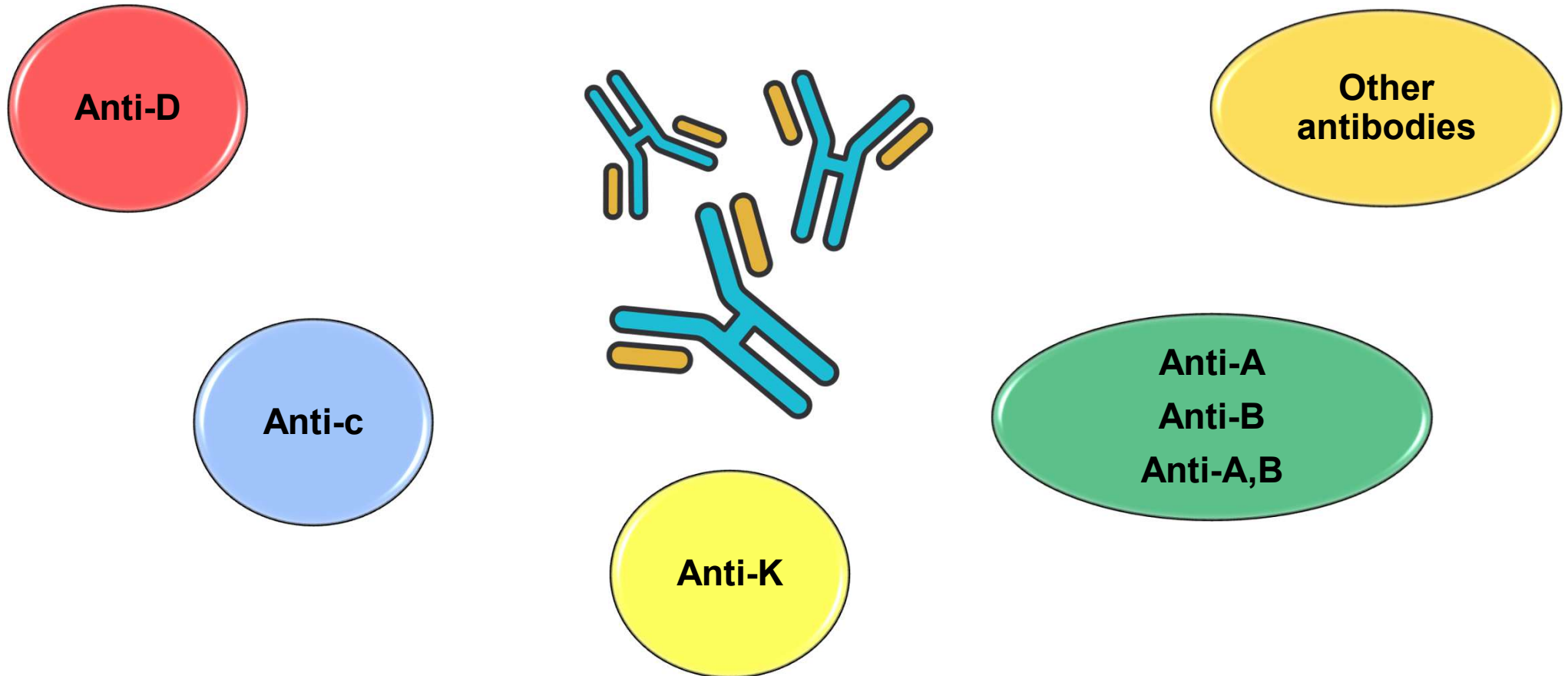
Top up
or exchange



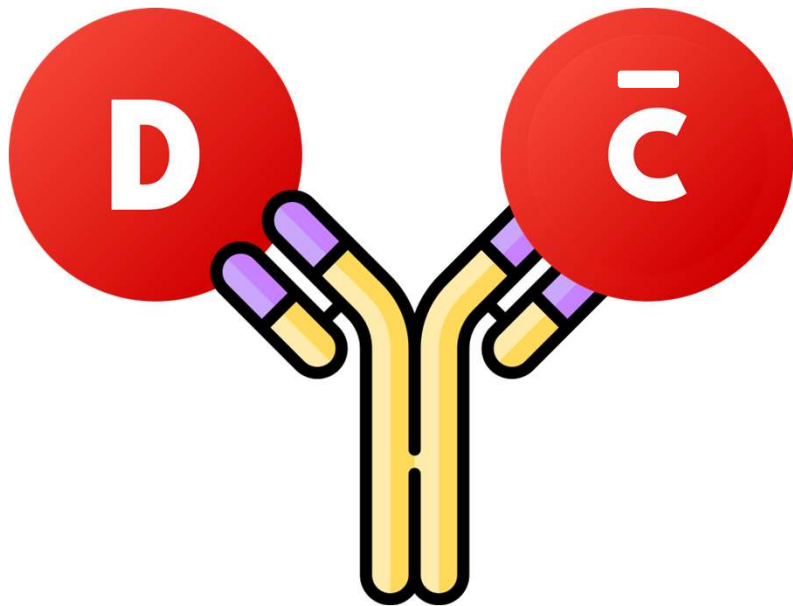
What Antibodies to Red Blood Cell Antigens are you Aware of that Cause Problems in Pregnancy?



What Antibodies to Red Blood Cell Antigens are you Aware of that Cause Problems in Pregnancy?



Anti-D and Anti-c, What do you know about the:



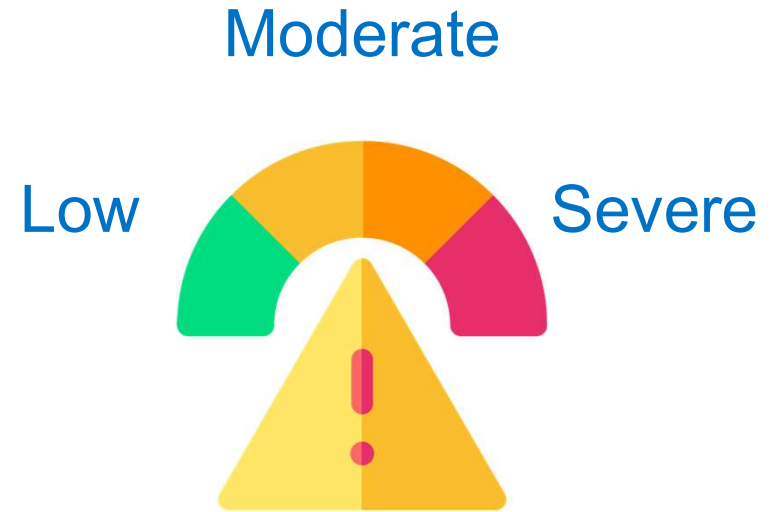
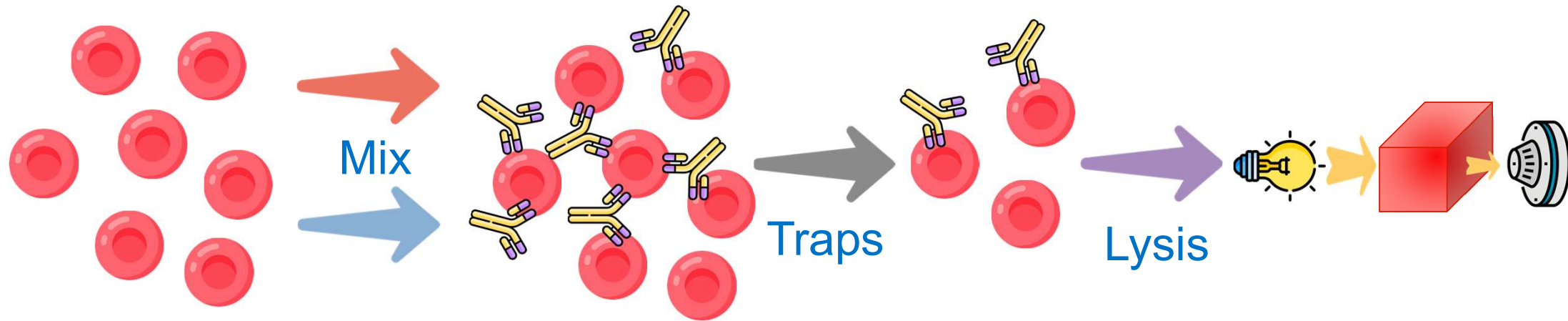
Risk?
Testing?
Results?



Anti-D and Anti-c, Testing; Risk; Results



Antibody Quantification



Anti-D and Anti-c: Testing; Risk; Results

<28 weeks = every 4 weeks
>28 weeks = every 2 weeks

Moderate
4 - 15IU/mL

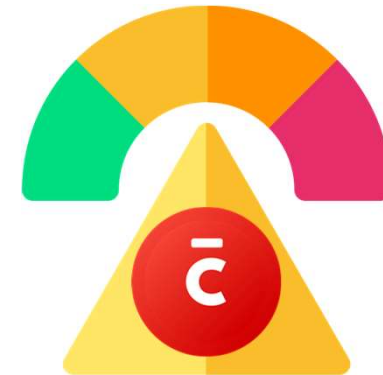
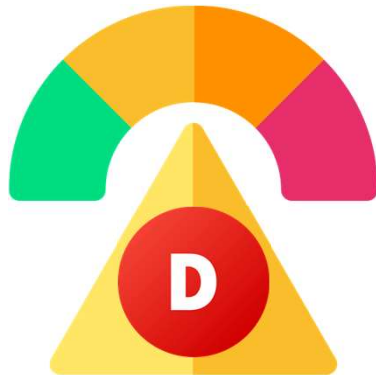
Moderate
7.5 - 20IU/mL

Low
<4IU/mL

Severe
>15IU/mL

Low
<7.5IU/mL

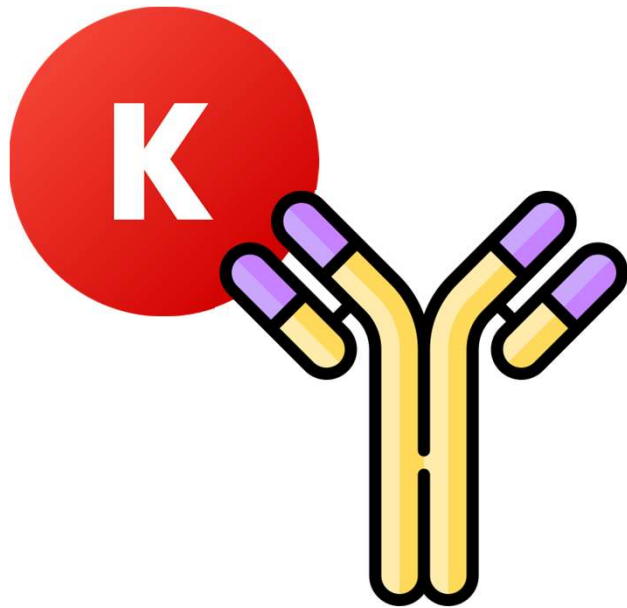
Severe
>20IU/mL



Clinically
significant rise
≥50%

Prophylactic anti-D
<0.4IU/mL

Anti-K, What do you know about the:



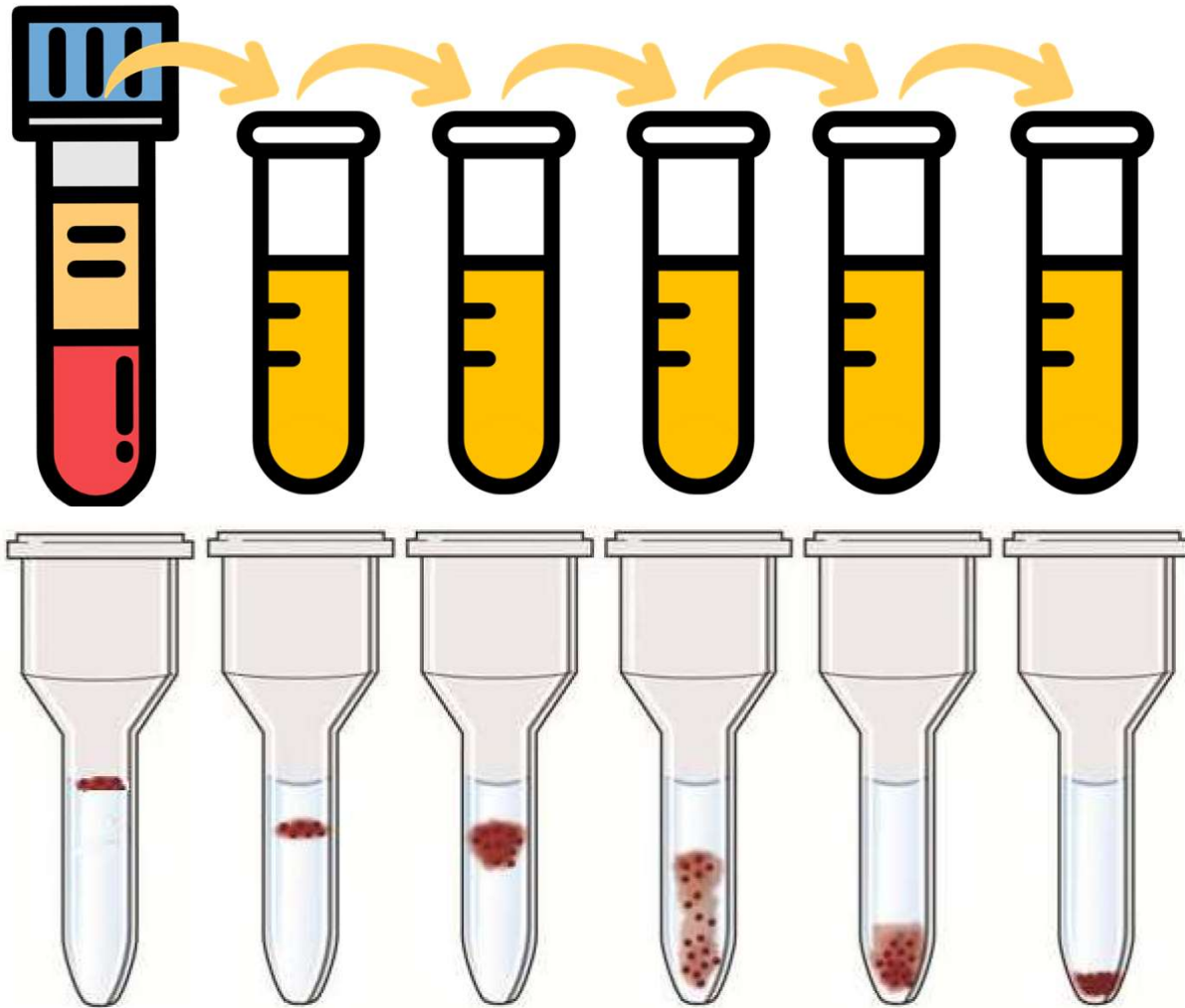
Risk?
Testing?
Results?



Anti-K: Risk; Testing; Results

Antibody titration

<28 weeks = every 4 weeks
>28 weeks = every 2 weeks

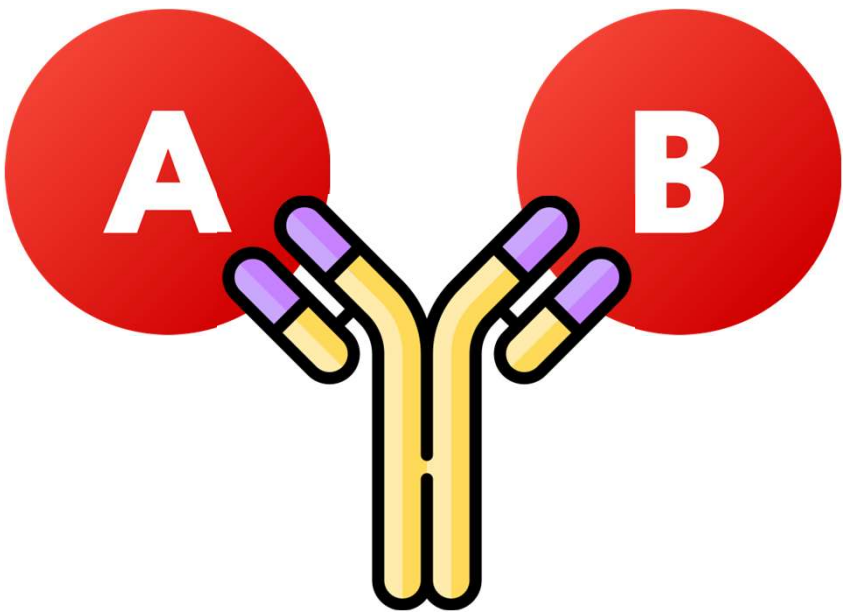


Severe
≥32



Erythroid progenitor cells

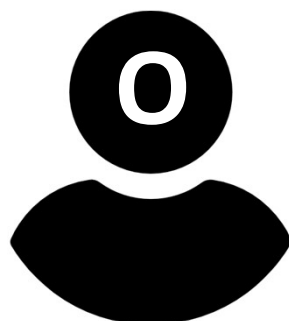
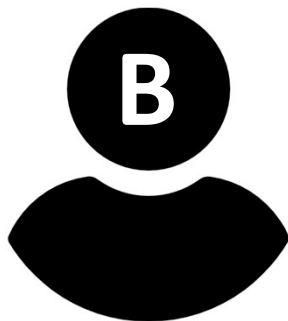
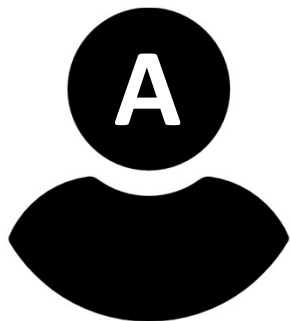
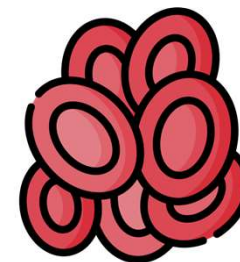
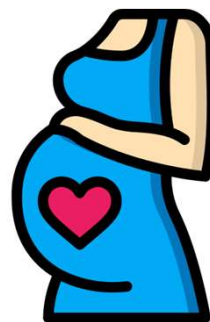
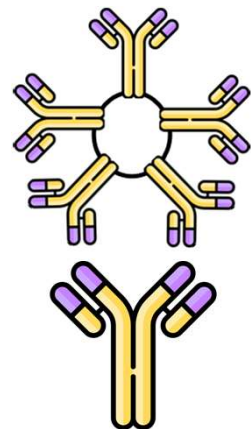
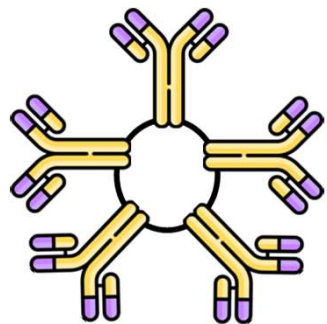
Anti-A, Anti-B and Anti-A,B, What do you know about the:



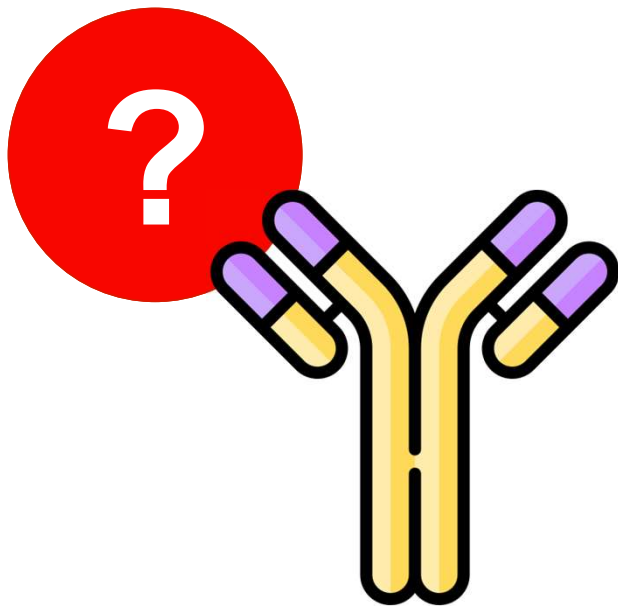
Risk?
Testing?
Results?



Anti-A, Anti-B and Anti-A,B: Risk, Testing, Results



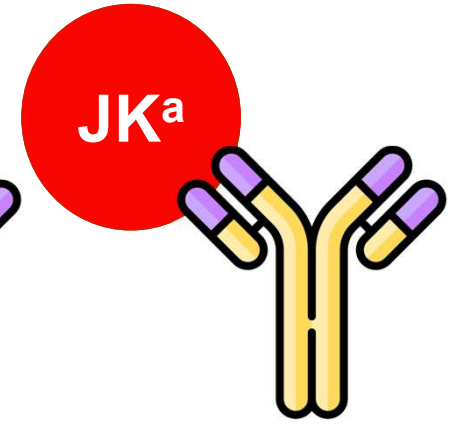
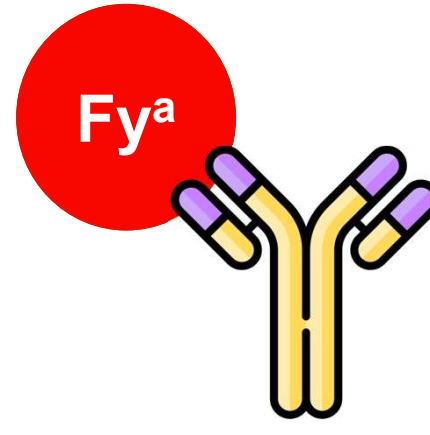
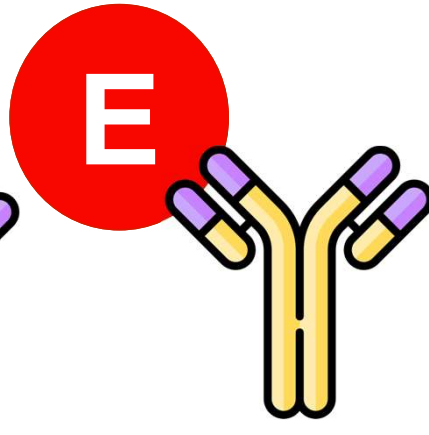
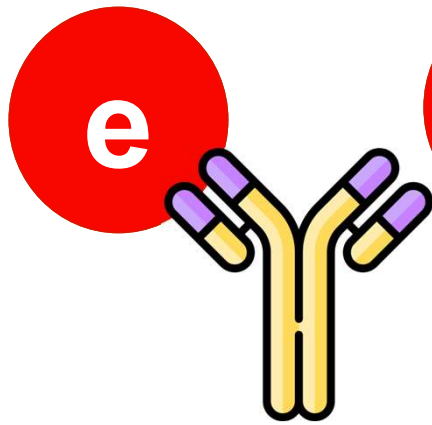
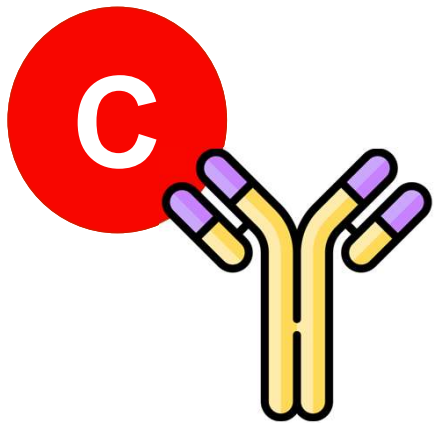
Other antibodies, What do you know about the:



Risk?
Testing?
Results?



Other antibodies: Risk; Testing; Results

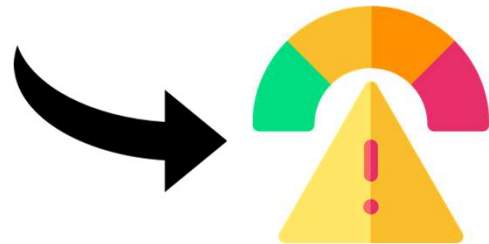
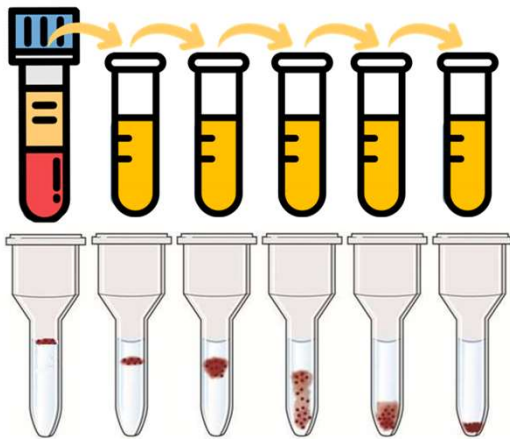


Antibody Titration @
Booking and 28 weeks

SPECIFICATION SPN214/4

The Clinical Significance of Blood Group Alloantibodies and the Supply of Blood for Transfusion

<https://nhsbtdbe.blob.core.windows.net/umbraco-assets-corp/14863/spn2144-the-clinical-significance-of-blood-group-alloantibodies-and-the-supply-of-blood-for-transfusion.pdf>



Severe
 ≥ 32

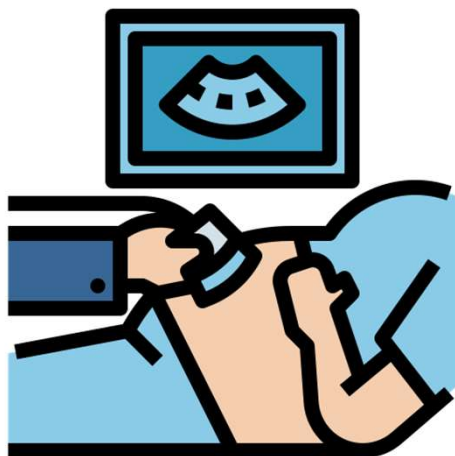


Increased
Bilirubin

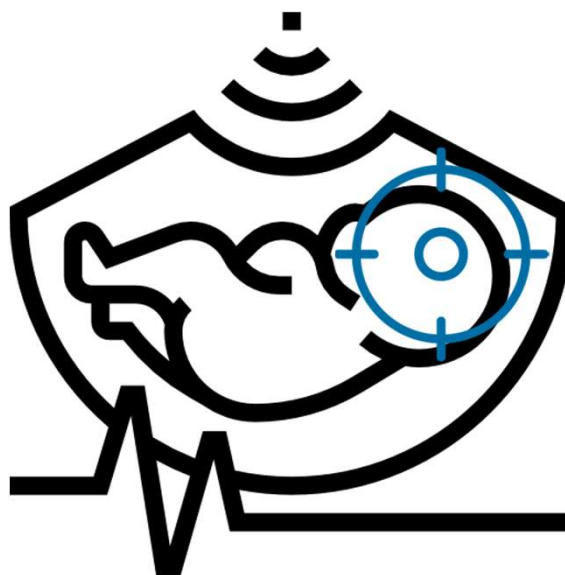


Further Management

Specialist Fetal Medicine Unit



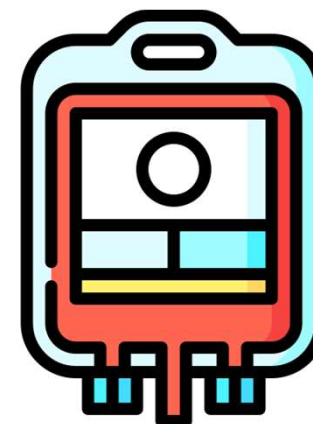
Performed weekly



>36 weeks
sensitivity decreases

Middle Cerebral Arterial (MCA) Doppler

- Performed weekly
- >36 weeks
- sensitivity decreases
- 18% false positive



Intrauterine
transfusion
(IUT)

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*Thanks
for listening*



Icons from <https://www.flaticon.com/>



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Caring Expert Quality