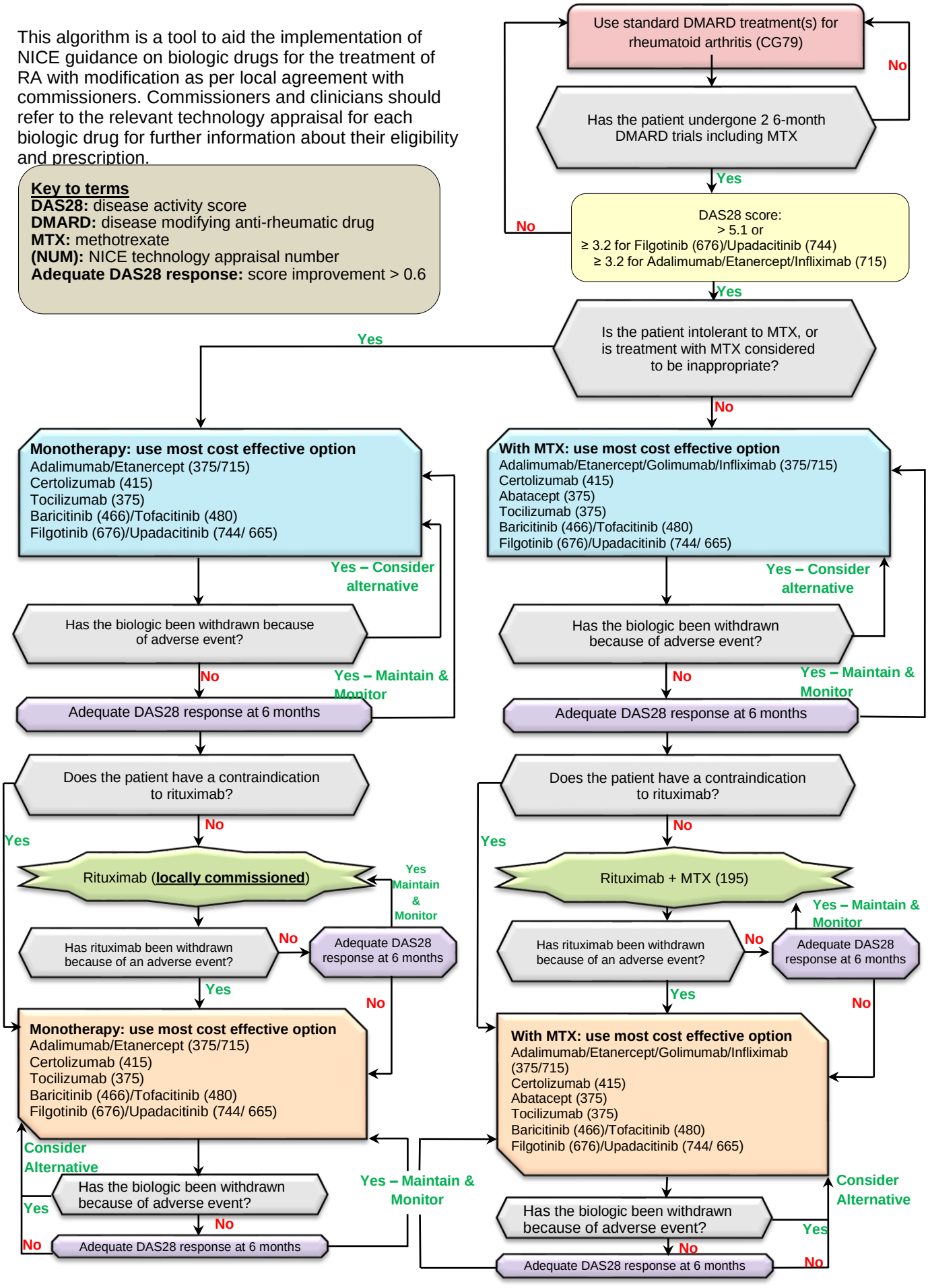
Northern Lincolnshire & Goole NHS Foundation Trust Treatment Algorithm for Biologics in Rheumatoid Arthritis (RA)

This algorithm is a tool to aid the implementation of NICE guidance on biologic drugs for the treatment of RA with modification as per local agreement with commissioners. Commissioners and clinicians should refer to the relevant technology appraisal for each biologic drug for further information about their eligibility and prescription.

Key to terms
DAS28: disease activity score
DMARD: disease modifying anti-rheumatic drug
MTX: methotrexate
(NUM): NICE technology appraisal number
Adequate DAS28 response: score improvement > 0.6



Selection of the most appropriate biologic

In line with general NICE guidance, biologic treatment should normally be started with the drug with the lowest acquisition cost. However, this is assuming there are no patient factors that would negate this which is often not the case.

The biologic risk: benefit profile of each individual is evaluated when making treatment decisions[1]. An individual's co-morbidity will mean this profile may vary from one patient to another. The risk: benefit assessment for an individual may also change over time. This might lead to seemingly contrasting choices in patients that have similar drug history profiles or in the same patient over time, and emphasises the need for individual clinical judgment to be applied.

What is the patient's serological status? Current evidence (SLR and meta-analysis) suggests that rituximab is more efficacious in seropositive patients/less efficacious in seronegative patients[2] and associated with a poorer side effect profile in the latter group (although on an individual level, some patients may respond). NICE does not differentiate the use of rituximab with regards to the antibody status of a patient (this practice is outside of NICE guidance). Please refer to the updated consensus statement on the use of rituximab in patients with rheumatoid arthritis[3]. BSRBR data illustrates TNFi are more efficacious in seronegative patients[4], supporting the use of a second TNFi over rituximab, following initial biologic failure, in this group of patients.

Can the patient take methotrexate? Where methotrexate is contra-indicated the following biologics are suitable as monotherapy:-

- Tocilizumab
- Abatacept
- Adalimumab
- Etanercept
- Certolizumab
- Golimumab
- Rituximab

Preferably all patients will be prescribed methotrexate in conjunction with their biologic, as this is associated with optimal response rates. However, there are a proportion of patients who are unable to tolerate methotrexate or its use is contra-indicated due to co-morbidities. Where monotherapy is necessary due to patient intolerance or contraindication to MTX, monotherapy is to be considered. Rituximab monotherapy is accepted in line with locally commissioned.

References

1. Woodrick RS, Ruderman EM. Safety of biologic therapy in rheumatoid arthritis. Nat Rev Rheumatol. 2011;7(11):639-52.
2. Isaacs J, Olech E, Tak P, et al. Autoantibody-Positive Rheumatoid Arthritis (RA) Patients (PTS) Have Enhanced Clinical Response to Rituximab (RTX) When Compared with Seronegative Patients. Ann Rheum Dis. 2009;68(Suppl.3):442.
3. Buch MH, Smolen JS, Betteridge N, et al. Updated consensus statement on the use of rituximab in patients with rheumatoid arthritis. Ann Rheum Dis. 2011;70(6):909-20. Epub 2011/03/08.
4. Potter C, Hyrich KL, Tracey A, et al. Association of rheumatoid factor and anti-cyclic citrullinated peptide positivity, but not carriage of shared epitope or PTPN22 susceptibility variants, with anti-tumour necrosis factor response in rheumatoid arthritis. Ann Rheum Dis. 2009;68(1):69-74. Epub 2008/04/01.