Worcestershire Acute Hospitals NHS Trust

Guideline for IgE Mediated Milk Allergy Management

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

Introduction

This guideline is for children with IgE mediated milk allergy within the paediatric department at Worcestershire Acute Hospitals NHS Trust.

For those with non-IgE mediated milk allergy see W&H Infant Feeding Guidelines https://www.hwics.org.uk/application/files/7317/0246/3310/ICB_Guide_to_Prescribing_of_Specialist_Infant_Formulae_in_CMA_v2.1_230809.pdf

This guideline is for use by the following staff groups:

This guideline is for children and young people with IgE mediated milk allergy under the care of the paediatric allergy service.

Lead Clinician(s)

Dr Tom Dawson	Consultant Paediatrician, Paediatrics
Approved by *Paediatric Governance* on:	21st February 2024
Review Date: This is the most current document and should be used until a revised version is in place	21st February 2027

Key amendments to this guideline

Date	Amendment	Approved by:
February 2024	new document	Paediatric Governance

Contents

Glossary

Adrenaline Auto Injector (AAI) – a device containing pre-set amounts of adrenaline for use in the community, for treatment of anaphylaxis

AAP – Allergy Action Plan. This is a standard guide given to all children with food allergies. It outlines the symptoms of an allergic reactions and how to treat them.

CM – Cow's Milk. Cow's milk is the primary mammalian milk (not human) used in the UK. Focus will be on introducing this milk, first

Dose Escalation - where increasing amounts of milk are given at home.

IgE – Immunoglobulin E – the main class of immunoglobulin responsible for type 1 allergic reactions

MOIT – Milk Oral Immunotherapy Treatment

OIT – Oral Immunotherapy Treatment

SpIgE – A measure of specific immunoglobulin E antibody to certain allergen(s) in the serum.

Background of Milk Allergy and Management

Cow's milk allergy (CMA) is one of the most common IgE-dependent food allergies in children, affecting 0.5–3% of children. CMA develops in the first year of life and is likely to be outgrown with age [(1)]. The outgrowth rates may be lower in high-risk cases of CMA, such as those with high levels of cow milk-specific IgE [(2)]. Cow's milk allergy represents 26% of anaphylaxis admissions with fatal outcomes in children aged under 16 years in the UK [(3)].

Cow's milk (CM) contains approximately 30–35g of proteins per litre, comprising more than 40 different proteins. In CM, casein accounts for 80% and whey 20%, of milk proteins. The major allergens of CMA are caseins (Bos d 8), α-lactalbumin (Bos d 4), and β-lactoglobulin (Bos d 5) in whey [(4)]. Most children with CMA are polysensitized to these proteins.

The basic management of food allergy is the avoidance of causative foods. CM and its products are major sources of protein and calcium in the diet of infants and (to a lesser extent) young children. Bone mineral density is more likely to be low in CM allergic children. Because a milk-free diet may negatively affect bone development in growing children, the repercussions of CMA may persist into adulthood [(5)]. Adolescents with CMA from infancy are at risk of not achieving their expected height and bone growth [(6)].

Some children develop severe and persistent CMA, with near-fatal reactions after exposure to small amounts of CM. Because CM based products are included in various processed food

products, it is difficult to completely remove these products from the diet. This can negatively affect the quality of life of children with CMA. A Canadian questionnaire study that asked parents with children who had multiple food allergies, such as CMA and hen's egg allergy, reported that CM was the allergen food with the greatest time, financial, social, and emotional burdens compared to foods such as hen's eggs and peanuts [7].

Initial Management of Milk Allergy

- All forms of CM and other mammalian milk such as goat or camel milk, should be avoided for a minimum of 6 months.
- An Allergy Action Plan (AAP) and advice on milk avoidance should be provided to parents.
- Breastfeeding mothers should be advised and encouraged keep milk in their diet where possible.
- Ensure appropriate formula as per prescribing guidelines for bottle fed babies https://www.hwics.org.uk/application/files/7317/0246/3310/ICB_Guide_to_Prescribing_of_Specialist_Infant_Formulae_in_CMA_v2.1_230809.pdf

PART 1: Introduction of Milk

This is the gradual introduction of very well baked cow's milk, cooked within a wheat matrix (flour). This usually done using a commercial malted milk biscuit. Small, increasing amounts of biscuit is given over a minimum six-week period, at home. This is followed by progression to daily consumption of a biscuit. If this is tolerated for at least three weeks, then the allergy team will direct progression to step 2 which involves small amounts of less well-cooked cow's milk. Subsequently, patients will be directed to steps 3 and 4 at the allergy teams' discretion.

A list of foods to consider for each step, is included in the parents' information guide (Appendix 1, Parent Information on Introduction of Milk at Home).

The information guide (Appendix 1) will be given to families with a verbal explanation.

Children and young people following the milk introduction at home guide will be regularly followed up by allergy clinic by telephone or face to face appointment and encouraged to contact the allergy team in the event of queries.

Inclusion criteria for home introduction of milk

Patients should be reviewed by allergy team at a clinic appointment and offered introduction of CM at home if there is a medical history consistent with IgE mediated CMA and if there:

- Have been no accidental allergic reactions to baked or cooked milk for a minimum of 6 months previously. *Note that reactions to fresh CM are not a contraindication to starting baked milk at home*.
- is a Skin Prick Test (SPT) <8mm or SpIgE <10.5Kua/l [8]

Non-consultant clinical staffs (specialist nurses, specialist registrar and specialist dieticians) who are assessing patient's suitability for milk introduction should discuss patients with the allergy consultants.

Exclusion Criteria

- Age <12 months old.
- Unstable asthma.
- Reaction within 6 months to baked milk or trace amounts of cooked milk.
- Anaphylaxis to baked milk within the last 12 months.
- History of severe anaphylaxis to CM requiring more than one Adrenaline Auto Injector (AAI) to manage the reaction.
- Severe eczema requiring any systemic anti-inflammatory medication in the last 12 months or unable to wean off topical steroids.
- History of Eosinophilic Oesophagitis.
- Non-compliance with management plan or unattended appointments.

If there is a failure to tolerate baked milk, but with no serious reactions, the advice is likely to be to wait and consider retrial in a minimum of 6 months, after discussion with the allergy team.

Those who are not suitable for introduction of baked milk at home can be considered for a hospital baked milk Oral Food Challenge (OFC), with a slower and more individualised CM introduction. These patients will be discussed at MDT.

Other Food Allergies to Consider

Whilst wheat and egg allergy are not a contraindication to starting home introduction of CM, it will be more challenging for families to complete the protocol, wheat free. Egg introduction should be offered first, where possible with most patients. This will be discussed on a case by case basis with the family and the MDT.

PART 2 - Milk Oral Immunotherapy (MOIT)

Criteria for commencing Milk Oral Immunotherapy must be discussed at allergy MDT.

Milk oral immunotherapy (MOIT) is currently a curative treatment option for food allergies. The European Academy of Allergy and Clinical Immunology (EAACI) states that oral immunotherapy (OIT) may increase the amount of food that children can tolerate, alleviate allergic symptoms, and reduce the risk of potentially life-threatening allergic reactions.

The EAACI guidelines indicate that milk oral immunotherapy is a curative option to increase the threshold of allergy reaction in children with persistent CMA while on the treatment [8].

Indications

MOIT is potentially indicated for infants or children with evidence of an IgE-mediated CMA. For infants or children with CMA, avoidance therapy may be ineffective, undesirable, or even cause severe limitations to their quality of life (QOL). Some studies recommend baseline reaction threshold should be used to establish the efficacy of MOIT but it is unlikely to be appropriate for many individuals in this service, but could be indicated on a case by case basis.

Because of the burden that is placed on patients and their families with this therapy, such as the long-term treatment and common adverse reactions, they should be motivated and adherent, and competent to use emergency medical treatment in the case of adverse effects.

Treatment adherence is essential, because if not followed properly, it might result in a higher rate of allergic reactions. Asthma and allergic dermatitis must be controlled before commencing MOIT. History of anaphylaxis to the targeted food allergen is generally not an exclusion criterion in OIT programmes. Written consent will be obtained from parents or guardians after discussions about the treatment.

Approaches to Oral Immunotherapy (OIT)

Typical MOIT protocols consist of three steps; namely, initial dose escalation (IDE), dose escalation, and maintenance. In MOIT, families should be warned that adverse reactions such

as anaphylaxis may frequently develop in many cases and they should be prescribed an AAI and counselled in the recognition and treatment of reactions.

Protocols

The Leicester allergy team protocol use increasing doses of baked CM in the form of malted milk biscuits or a recipe, a method we have been using for 10 years (Part 1). Although this method can be started at home there are often difficulties at stage 2 with reactions to some products and not others, with some patients unable to progress beyond a crumb of biscuit.

The approach taken by the Evelina allergy team (Guys & St Thomas') is that skimmed or semi-skimmed milk diluted in water, is used in increasing concentrations [10]. The initial 'dose' of CM is given in hospital with the remaining doses given at home for the next 66 days (See Appendix 2). An AAI is provided as dose escalations occur each day.

Inclusion

A medial history consistent with IgE mediated Cow's Milk allergy and:

- SpIgE >0.35KUA/L or positive Skin Prick Test (SPT) >3mm to Milk in the last 6 months.
- Good health.
- Age between 5 and 14 years.
- History suggestive of persistent CMA with *at least one* of the below criteria met:

a) Failed baked milk challenge within the last 12 months.
b) Failed home introduction of CM.
c) Convincing history of reaction to baked milk.

Exclusion

The following patients should be excluded from the guideline:

- Age <4 and >14 years.
- Unstable asthma.
- Severe Asthma
    - Previously required intubation.
    - FEV1 <70% predicted.
    - Known poor adherence with preventer inhalers.
- Reaction within 6 months to baked milk or trace amounts of cooked milk.
- Anaphylaxis to baked milk within the last 12 months.
- History of severe anaphylaxis to cow's milk needing more than one AAI to manage the reaction, within the last 12 months.

- Severe eczema requiring any systemic anti-inflammatory medication in the last 12 months or unable to wean off topical steroids.
- History of, or diagnostic suspicion of Eosinophilic Oesophagitis.
- Pollen or house dust mite immunotherapy in the first year of treatment.
- Inability to follow protocol requirements.
- Non-compliance with management plan or unattended appointments.
- Pregnancy.

Enrolment to Milk Oral Immunotherapy (MOIT)

Those agreeing to MOIT should be discussed, documented and agreed at Allergy MDT and an AAI prescribed with training. The Patient Information Guide (see Appendix 2) should be given to parents before consent along with the golden rules of treatment (see Appendix 2).

Parents should give informed consent and where appropriate minors should give ascent. This needs a commitment from the family which should be emphasised at time of consent and the golden rules adhered to.

Antihistamines should not be given for 3 days prior to initiation but can be used as required subsequently for other conditions. They may mask early reactions so parents must be informed of this theoretical possibility.

Information on Co-factors

Some events or activities may increase the risk of reactions:

- exercise
- hot water exposure
- intercurrent illness (e.g., viral infection)
- fasting
- sleep deprivation
- alcohol

Activities may need to be rescheduled during this treatment or, if unavoidable the dose escalation may need to be halted during an infection for example.

It may be better to arrange the dosing to avoid these activities, but it is preferred that ingestion is at a similar time each day, to improve routine and ensure consistent time between dosing. This should be at least 12 hours.

Treatment Summary

The treatment starts with one drop of milk of a 1% cow's milk solution and this first dose is given in hospital. Each day the dose is increased according to the Dosing Schedule (Appendix 3). Patients progress through three stages at home. The first stage progresses from 1 to 20 drops of 1% milk solution, the second stage moves from 3 to 20 drops of 10% milk solution and the final, third stage progresses from 3 drops to 250ml of cow's milk. Before each change in stage, the allergy team should be contacted to ensure this is appropriate. This may involve remaining on the same dose for a few days. During this treatment, children and young people must continue to follow a milk avoidance diet and continue to always carry emergency medications.

Due to capacity we aim to have no more than 4 patients on MOIT at one time.

Reactions

All reactions should be managed according to the Allergy Action Plan (AAP) provided at the start of the treatment.

If there is a mild reaction, then the next dose should be reduced 4 levels (days) back in the treatment protocol and continued at this level for 7 days. If the symptoms have settled at this point the same dose should be continued for a further 7 days before restarting dose escalation again. If symptoms do not settle within 7 days then the parents will be asked to contact the allergy team. This will be discussed with the patient's consultant and further dose reduction may be advised.

A member of the allergy team should be contacted to discuss any reactions with them. Antihistamines can be given as per the AAP. If anaphylaxis occurs the regimen should be halted indefinitely.

Follow-up

Formal follow-up will be by telephone on a monthly basis initially for the first two months.

Patients will be encouraged to get in contact if they are concerned and will be granted open access to the word for MOIT related concerns. The default position, if uncertain of a reaction, is to drop down to the previously tolerated dose until discussed with a member of the team.

Completing the Treatment

It is likely that there will be no deterioration after the completion of treatment. For the first two weeks we recommend the maximum dose is continued. Not all children will achieve the full

250mls of milk daily. After then it is recommended a minimum of three times weekly ingestion as a minimum of the maximum tolerated treatment is continued to maintain tolerance.

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Appendix 1 – Parent Information on Introduction of Milk at Home

Home Milk Introduction

This leaflet will be given following discussion with your allergy team and is NOT suitable for sharing with other families.

Given to ……

By……as discussed on……..

Background

Most children will grow out of their cow's milk allergy. The following plan explains how to start introducing small amounts of cow's milk into your child's diet in a safe way, at home.

The first stage is to give small amounts of milk protein in a biscuit. This is because cow's milk protein is less likely to cause an allergic reaction when mixed with flour and cooked at high temperatures.

Being able to tolerate foods with milk as an ingredient not only makes dietary choices less restrictive, but also helps to speed up the body's ability to tolerate larger amounts of lightly cooked milk and fresh milk.

Some children remain severely allergic to milk and need to continue a strict milk free diet or have a supervised challenge in hospital. However, if your doctor, allergy dietitian or nurse, has assessed your child to be ready to introduce small amounts of milk at home, you should follow the plan below.

In this leaflet, the following terms are used:

'Milk' refers to all mammalian milk except human milk.

'Baked Milk' refers to milk that has been added to a food and cooked in the oven at a high temperature for >12minutes.

'Tolerated' means that your child has eaten the food and not shown any symptoms of an immediate allergic reaction.

Before starting make sure:

- ✓ You have some antihistamine available, and you know the dose recommended for your child.
- ✓ You have read and understood your Allergy Action Plan which outlines how to recognise and manage an allergic reaction.

- ✓ Ensure your child is well (i.e. does not have a cold or fever) before starting **each new step** and you are able to give them your full attention.
- ✓ If your child has other allergies (e.g. wheat or egg) please continue to check ingredients on packaging.
- ✓ You can stay at each stage for longer than stated if you want, but please do not move up to the next stage more quickly than advised.
- ✓ If you have needed to give antihistamines then please wait 3-5 days before starting this process.

Stage 1

This stage involves giving manufactured or highly processed foods containing milk, cooked at high temperatures, also known as 'Baked Milk'.

Week 1:

- Small crumb of biscuit containing whole milk e.g. malted milk biscuit to be eaten every day for 1 week.

Week 2:

- Large crumb to be eaten (2 days)
- 1/16 biscuit to be eaten (2 days)
- 1/8 biscuit to be eaten (3 days)

Week 3:

- 1/4 biscuit to be eaten daily for 1 week

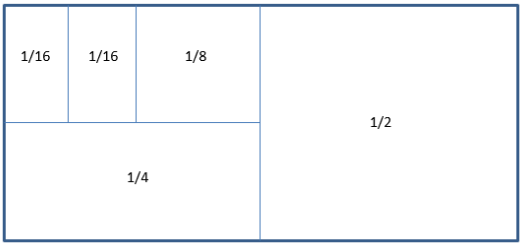
Week 4:

- 1/2 biscuit to be eaten daily for 1 week

Week 5:

- 1 whole biscuit to be eaten daily for 2 weeks

Measuring a biscuit



Notes:

- You may stay at each stage for longer, but do not increase to the next stage quicker unless you have been told to do so.
- Try to give the dose every day. If you miss several days (e.g. your child is unwell) give a smaller dose when you restart.
- Do not increase to higher dose if your child is unwell.
- For immediate allergic reactions (within 30 minutes), follow the Allergy Action Plan given to you by your allergy team (e.g. giving a dose of antihistamine). Wait a few days until your child has fully recovered and then reintroduce the previous dose that they tolerated with no reaction.

- If your child begins to show delayed symptoms (e.g. a rash, eczema flare, tummy ache, vomiting, diarrhoea/loose stool, loss of appetite, throat tingle) reduce the dose to a lower level that is tolerated and contact the allergy team.

Stage 2

Once your child is tolerating a whole biscuit, eaten daily for 2-3 weeks, we will advise you when you can begin to offer other foods that contain milk that is mixed with flour and cooked at high temperatures (e.g. cakes, other biscuits, scotch pancakes, croissants), and also products that contain small quantities of less well-cooked milk (e.g. flavourings on crisps). There are more ideas given on the 'milk introduction' examples list.

Notes:

- ✓ For each new food tried, give a small amount first, e.g. 1/8 of a small portion and then slowly increase over a 2-3 weeks until an age appropriate portion is tolerated.
- ✓ Once tolerated, ensure your child eats at least one food containing baked milk every day.
- ✓ If a particular food causes symptoms, leave it out or try a smaller quantity (but retry in two months).
- ✓ If allergic symptoms are frequent with stage 2, return to stage 1 (1 biscuit per day) for longer.
- ✓ **Do not** increase the volume of milk if the child is unwell or you are concerned they are showing allergic symptoms.

Stage 3

Only begin to try foods from this stage if your child is regularly eating foods freely from stage 1 and 2 without symptoms, and your allergy team has told you to do so. These foods contain considerably more milk protein and this can vary between the different products and cooking times.

Notes:

- ✓ Give small amounts initially e.g. 1 lick of yoghurt or 1 strand of cooked cheese, and build up on the quantity, slowly.
- ✓ Each food is different so do not assume if you are eating one product, all will be tolerated. Start each new food in small quantities first, then building up to a portion size.
- ✓ If symptoms occur on small amounts of these products, stay on stage 2 for another 2 to 3 months.

- ✓ It is much better to have a daily 'dose' of a milk containing food and build up the quantity every week rather than give it only once or twice per week in larger quantities.
- ✓ Always make sure your child is well on the day of introducing a new type or quantity of milk.

Stage 4

These foods should only be tried if your child is <u>regularly</u> eating foods from stage 3 daily and following advice from your hospital allergy team.

- ✓ Start with small doses e.g. teaspoon ice cream, small piece of cheese.
- ✓ If trying fresh cow's milk, start by trying 1 teaspoon and increase every couple of days.
- ✓ If your child dislikes the taste of milk, try it in hot chocolate, milkshake or mixed with the child's usual milk substitute (cold or warm).
- ✓ If symptoms occur, refer to your 'allergy action plan' and continue to only allow foods from stage 3, but retry in 2 to 3 months until full tolerance is achieved.
- ✓ Contact the allergy team to discuss, if you wish.

Summary of milk introduction

Stage 1	Stage 2	Stage 3	Stage 4
Small crumb of biscuit containing **whole milk** as an ingredient, not only whey powder. Build up over 5 weeks as tolerated. If buying shop bought biscuits avoid chocolate and cream filled ones and check the biscuit contains less than 1g protein per biscuit.	Other baked products that contain milk as an ingredient e.g. muffins or small traces of less cooked milk e.g. butter/margarine, flavourings that contain milk e.g. crisps.	Products that contain milk or cheese as a **heated** ingredient. Introduce in <u>trace</u> amounts first as these foods contain a much higher amount of milk protein (e.g. cheese or are less cooked (e.g. chocolate).	Full tolerance to milk is achieved once foods in this section are taken in standard amounts. Try small quantities initially. If all products are tolerated <u>except</u> fresh cold milk, continue with the milk substitute and retry every 2 to 3 months.

Examples of foods to try (home milk introduction)

Stage 1	Stage 2	Stage 3	Stage 4
Biscuits that list milk as an ingredient, Examples include; Malted milk, (for younger children). For homemade biscuit recipes, add up to 4 teaspoons milk per biscuit (see below) 1 tbsp flour 1 tsp coco powder *(optional)* 1 ½ tsp sugar 1 tsp margarine ***(dairy free)*** 3 – 4 tsp milk Oven bake at 200℃ for 12 minutes	**Other biscuits, cakes and bread that contain milk as an ingredient. Please continue to check ingredients lists** Sweet waffles Muffins Fruit teacakes Malt loaf Scones Scotch pancakes Flapjacks Trifle sponges Ice cream wafers Brownies Sponge and pastry Flan cases French fancies Lemon cupcakes Shortbread Shortcake Shortie biscuits Butter crunch biscuits Jaffa cakes Bread products: croissant, breads, brioche Shop bought frozen Yorkshire Puddings Crisps and snacks that contain milk or cheese powder as a flavouring	**Products that contain cheese or cow's milk as a heated ingredient.** Examples include; Custard, custard tart Pizza with cheese Cheese or white sauce Soup made with milk (Cream soups) Rice pudding Dishes that contain heated milk e.g. mash potato topping (cottage/shepherds/fish pie). Lasagne or other oven baked pasta dish Homemade batters e.g. pancakes, Yorkshire pudding Chocolate and chocolate covered items e.g. chocolate biscuit Chocolate as in ingredient e.g. choc chip Fermented desserts e.g. Yoghurt, Fromage Frais	Uncooked cheese Uncooked non-yoghurt desserts e.g. cheesecake, mousse, ice cream, cream cakes Fresh cow's milk, milk shakes.

Contact details for the Allergy Team
In the first instance, please use the contact numbers for the secretaries at the top of your clinic letter.
Or
please contact the allergy team on:
Tel: 07564 848463
Email: wah-tr.paediatricallergy@nhs.net

Appendix 2 – Milk Oral Immunotherapy (MOIT) Information

Milk Oral Immunotherapy (MOIT) Information

You have been given this information on milk immunotherapy as we have discussed this with you in your child's recent allergy clinic appointment. Please take the time to read this information and ask us if you have any questions. Contact details are provided at the end of the document.

Introduction

Cow's milk is the most common cause of food intolerance, affecting 2-3% young children. Symptoms can include skin rash, itching, wheezing and cough, vomiting and diarrhoea. Most children will start to outgrow their milk allergy at school age. Some will resolve completely, others will only have slight improvement, which may mean that they can take a small amount of milk, but larger amounts may still cause unpleasant symptoms or allergic reactions.

MOIT is short for 'Milk Oral Immunotherapy.' The term 'desensitisation' is also sometimes used. This is a treatment programme where children are given an increasing amount of fresh milk to help them develop tolerance to cow's milk. The purpose of MOIT is to increase the tolerance to milk so that larger amounts of milk can be taken without any allergic symptoms.

It is important that when a child is on this treatment programme that they follow a strict milk-free diet, until they have complete resolution. The only milk they may have is the daily dose on their treatment plan. Every day, your child will drink a 'dose' as outlined in the protocol below. At the end of the treatment protocol, your child will drink 250mls of fresh cow's milk, or as much as they can tolerate without symptoms.

Any skipping of stages to speed up the reintroduction plan could result in a reaction and we strongly advise you not to do this.

We will ask you to sign a consent form before starting treatment. This is to ensure that you are familiar with the purpose of this treatment and an agreement to adhere to the 'golden rules' of the protocol.

What side effects will my child experience?

During the treatment protocol, your child may experience mild allergic side effects such as rashes, lip/facial swelling, wheeze and abdominal discomfort. Severe or 'anaphylactic symptoms' occur rarely, however, as the child is taking a food to which he or she is allergic, we prescribe an Adrenaline Auto Injector (AAI) as a precaution. We will train you in how to recognise an anaphylaxis and how to use your emergency treatment.

When do I give the milk dose?

This treatment involves giving a measured dose of milk, every day for a minimum of 67 days.

The first dose is given under supervision, in hospital. We recommend that each subsequent dose is given in the morning, at home.

We also recommend that exercise and hot showers/baths are avoided 1 hour before and 2 hours after the milk dose is given. This is because these activities can act as 'co-factors' and can bring about a reaction or make one worse. So there may need to be some adjustments to your normal home routines, in order to fit the milk dosing into your family life.

What happens if symptoms develop?

Follow your allergy action plan. If they symptoms are mild, give your child antihistamines to relieve the symptoms. Once your child is well and symptoms have resolved, you must notify the allergy team.

We will usually advise you to go back 4 levels (days) on the treatment plan and continue at this level for 7 more days. If symptoms settle after 7 days, continue taking this dose for another 7 days and then progress with the treatment plan. If symptoms do not settle within 7 days then contact the allergy team and take regular antihistamines until symptoms settle (we may advise going back again).

You will have been advised on which antihistamine to use and at what dose. In the rare event that your child has anaphylactic symptoms, treatment with your AAI will be necessary.

Will my child's milk allergy completely resolve at the end of the programme?

Sometimes, children do not achieve the maximum dose of 250ml (1 glass of skimmed or semi skimmed milk). We will advise you to continue daily milk exposure at the lower dose that your child has been able to tolerate. After 3 months we may try to achieve the maximum dose again.

It seems that once a child has reached a maximum dose and can tolerate drinking a good amount of milk each day, that they must continue to consume milk and/or other dairy products daily (or almost every day) to help maintain their tolerance.

Golden Rules

- ✓ Follow the dosing protocol as outlined – do not skip steps. You can repeat the same step if you wish.
- ✓ Speak to the allergy team before moving up a **stage**. We might ask you to repeat the last dose for a few days/weeks if we feel this is necessary.
- ✓ Avoid exercise 2 hours after the milk dose and 1 hour before.
- ✓ If your child is ill or has a fever do not increase the dose of milk, continue on a lower dose and do not move up until they are fully recovered.
- ✓ If you have an allergic reaction to another food then treat as appropriate and remain on the same dose for 3 days after the last symptoms have resolved before restarting dose escalation.
- ✓ Contact the allergy team if your child has an allergic reaction.
- ✓ If you are concerned and you are unable to speak to a member of the allergy team then do not escalate the dose of milk

Contact details for the Allergy Team
In the first instance, please use the contact numbers for the secretaries at the top of your clinic letter
Or
please contact the allergy team on:
Tel: 07564 848463
Email: wah-tr.paediatricallergy@nhs.net

Appendix 3 – Dosing Schedule

Information on the milk dosing schedule

Please ensure that you follow the dosing instructions exactly as written below. There are three stages – the first and second stages involve carefully diluted milk solutions. We will explain to you how to do this, and provide the equipment.

a. **STAGE 1** Dilution – 1ml of milk is added to 99ml of water (100ml solution) i.e. 1% solution
b. **STAGE 2** Dilution – 1ml of milk is added to 9ml of water (10ml solution) i.e. 10% solution
c. **STAGE 3** – Fresh milk

Each stage requires a larger dose of milk as per the instructions below.

- ✓ Three days before each step you must contact your allergy team.
- ✓ While following this protocol, your child must be on a strict milk free diet.
- ✓ Use Semi skimmed or Skimmed milk for all stages.
- ✓ Please make up a fresh solution each day. Do not freeze and reheat

Equipment Required:

- 1 x 1 mL Syringe
- 1 x 10 mL syringe
- 1 x 20 mL Syringe
- 1 x 50 mL Syringe
- 2 x pipettes
- A clean container

STAGE 1: Add 1 ml of Milk + 99 ml of Water. Mix			
Day	**Date (for your completion)**	**volume to give**	**unit**
1		1	Drop
2		2	Drops
3		3	Drops
4		4	Drops
5		5	Drops
6		6	Drops
7		7	Drops
8		8	Drops
9		9	Drops
10		10	Drops
11		14	Drops
12		20	Drops

Please ensure you have contacted your allergy team before proceeding to Stage 2			
STAGE 2: Add 1 ml of Milk + 9 ml of Water. Mix			
Day	**Date (for your completion)**	**volume to give**	**unit**
13		3	Drops
14		4	Drops
15		5	Drops
16		6	Drops
17		7	Drops
18		8	Drops
19		10	Drops
20		14	Drops
21		20	Drops

Please ensure you have spoken to your allergy team before proceeding to Stage 3			
STAGE 3: Pure Milk			
Day	**Date (for your completion)**	**Volume to give**	**unit**
22		3	Drops
23		4	Drops
24		5	Drops
25		6	Drops
26		7	Drops
27		8	Drops
28		10	Drops
29		14	Drops
30		20	Drops
31		1.5	**ml**
32		2.0	ml
33		2.5	ml
34		3	ml
35		3.5	ml
36		4	ml
37		5	ml
38		6	ml
39		8	ml
40		10	ml
41		12	ml
42		14	ml
43		16	ml
44		18	ml

45		20	ml
46		22	ml
47		24	ml
48		26	ml
49		28	ml
50		30	ml
51		33	ml
52		36	ml
53		40	ml
54		50	ml
55		65	ml
56		85	ml
57		100	ml
58		130	ml
59		140	ml
60		150	ml
61		160	ml
62		170	ml
63		180	ml
64		190	ml
65		210	ml
66		225	ml
67		250	ml

Monitoring

Page/ Section of Key Document	Key control:	Checks to be carried out to confirm compliance with the Policy:	How often the check will be carried out:	Responsible for carrying out the check:	Results of check reported to: *(Responsible for also ensuring actions are developed to address any areas of non-compliance)*	Frequency of reporting:
	WHAT?	**HOW?**	**WHEN?**	**WHO?**	**WHERE?**	**WHEN?**
	These are the 'key' parts of the process that we are relying on to manage risk. We may not be able to monitor every part of the process, but we MUST monitor the key elements, otherwise we won't know whether we are keeping patients, visitors and/or staff safe.	What are we going to do to make sure the key parts of the process we have identified are being followed? (Some techniques to consider are; audits, spot-checks, analysis of incident trends, monitoring of attendance at training.)	Be realistic. Set achievable frequencies. Use terms such as '10 times a year' instead of 'monthly'.	Who is responsible for the check? Is it listed in the 'duties' section of the Policy? Is it in the job description?	Who will receive the monitoring results? Where this is a committee the committee's specific responsibility for monitoring the process must be described within its terms of reference.	Use terms such as '10 times a year' instead of 'monthly'.

Contribution List

Contribution List

This key document has been circulated to the following individuals for consultation;

Designation
Phoebe Moulsdale – allergy specialist nurse for children and young people
Dr Paul Watson – paediatric consultant with special interest in allergy
Dr Fahad Siddiqui – specialist paediatric registrar SPIN allergy trainee
Jo Colley – Senior paediatric physio for cystic fibrosis and respiratory
Vanessa Appleyard – Specialist dietician for children and young people

This key document has been circulated to the chair(s) of the following committee's / groups for comments;

Committee
Guideline Committee Meeting 2024

Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and included as an appendix to key document when submitted to the appropriate committee for consideration and approval.

Please complete assessment form on next page;

Worcestershire Acute Hospitals NHS Trust

Worcestershire Acute Hospitals NHS Trust

Herefordshire & Worcestershire STP - Equality Impact Assessment (EIA) Form
Please read EIA guidelines when completing this form

Section 1 - Name of Organisation (please tick)

Herefordshire & Worcestershire STP		Herefordshire Council		Herefordshire CCG	
Worcestershire Acute Hospitals NHS Trust	x	Worcestershire County Council		Worcestershire CCGs	
Worcestershire Health and Care NHS Trust		Wye Valley NHS Trust		Other (please state)	

Name of Lead for Activity	**Dr Tom Dawson**

Details of individuals completing this assessment	**Name**	**Job title**	**e-mail contact**
	Phoebe Moulsdale	**Allergy CNS for Children and Young People**	**Phoebe.Moulsdale1@nhs.net**
Date assessment completed	**24/01/2034**		

Section 2

Activity being assessed (e.g. policy/procedure, document, service redesign, policy, strategy etc.)	**Title:** **Guideline for IgE Mediated Milk Allergy Management**			
What is the aim, purpose and/or intended outcomes of this Activity?	To provide guidance on milk allergy managment in children and young people			
Who will be affected by the development & implementation of this activity?	X x	Service User Patient Carers Visitors	x ❑ ❑ ❑	Staff Communities Other _____

Is this:	❑ Review of an existing activity x New activity ❑ Planning to withdraw or reduce a service, activity or presence?
What information and evidence have you reviewed to help inform this assessment? (Please name sources, eg demographic information for patients / services / staff groups affected, complaints etc.	Online study days on oral immunotherapy (PM & TD) Evidence of increasing milk allergy Growing evidence on SOTI Reference list in guideline
Summary of engagement or consultation undertaken (e.g. who and how have you engaged with, or why do you believe this is not required)	No consultation with service users. However similar management is already in place for many years
Summary of relevant findings	Detailed background in guideline.

Section 3

Please consider the potential impact of this activity (during development & implementation) on each of the equality groups outlined below. **Please tick one or more impact box below for each Equality Group and explain your rationale**. Please note it is possible for the potential impact to be both positive and negative within the same equality group and this should be recorded. Remember to consider the impact on e.g. staff, public, patients, carers etc. in these equality groups.

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Age	x			To speed up resolution of milk allergy
Disability		x		Inclusion/exclusion criteria must be met
Gender Reassignment		x		Inclusion/exclusion criteria must be met
Marriage & Civil Partnerships		x		Inclusion/exclusion criteria must be met
Pregnancy & Maternity			x	Elements of the guideline not suitable for pregnant women
Race including Traveling Communities		x		Inclusion/exclusion criteria must be met
Religion & Belief		x		Inclusion/exclusion criteria must be met
Sex		x		Inclusion/exclusion criteria must be met
Sexual Orientation		x		Inclusion/exclusion criteria must be met

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Other Vulnerable and Disadvantaged Groups (e.g. carers; care leavers; homeless; Social/Economic deprivation, travelling communities etc.)		x		Golden rules must be adhered to Clean food preparation areas must be available
Health Inequalities (any preventable, unfair & unjust differences in health status between groups, populations or individuals that arise from the unequal distribution of social, environmental & economic conditions within societies)		x		Inclusion/exclusion criteria must be met

Section 4

What actions will you take to mitigate any potential negative impacts?	Risk identified	Actions required to reduce / eliminate negative impact	Who will lead on the action?	Timeframe
	Pregnancy	*Discussed during consent*	**Allergy team**	**ongoing**
How will you monitor these actions?	**Regular clinic review and telephone consultations**			
When will you review this EIA? (e.g in a service redesign, this EIA should be revisited regularly throughout the design & implementation)	**With guideline review**			

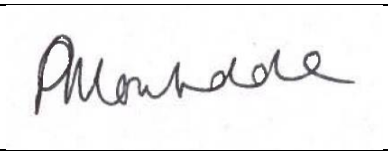
Section 5 - Please read and agree to the following Equality Statement

1. Equality Statement

1.1. All public bodies have a statutory duty under the Equality Act 2010 to set out arrangements to assess and consult on how their policies and functions impact on the 9 protected characteristics: Age; Disability; Gender Reassignment; Marriage & Civil Partnership; Pregnancy & Maternity; Race; Religion & Belief; Sex; Sexual Orientation
1.2. Our Organisations will challenge discrimination, promote equality, respect human rights, and aims to design and implement services, policies and measures that meet the

diverse needs of our service, and population, ensuring that none are placed at a disadvantage over others.

1.3. All staff are expected to deliver services and provide services and care in a manner which respects the individuality of service users, patients, carer's etc, and as such treat them and members of the workforce respectfully, paying due regard to the 9 protected characteristics.

Signature of person completing EIA	
Date signed	24/01/24
Comments:	
Signature of person the Leader Person for this activity	
Date signed	
Comments:	