

Utilization of Group Visits for Infant and Toddler Oral Food Challenges

Michael Pistiner, MD, MMSc

A “Practice Pearl” helps an allergist-immunologist practice more safely, effectively, timely, efficiently, equitably, or in a more patient-centered way. This feature is coordinated by Stuart Abramson, MD, Giselle Mosnaim, MD, and Andrew Murphy, MD, from the American Academy of Allergy, Asthma & Immunology Federation of Regional, State, and Local Allergy, Asthma, and Immunology Societies Assembly and by Editorial Board member Matthew Rank, MD. More information about submitting a “Practice Pearl” can be found on our Web site (jaci-inpractice.org).

PRACTICE CHALLENGES

Oral food challenges (OFCs) are the current standard for diagnosing food allergy (FA) or proving tolerance to food. National Institute of Allergy and Infectious Diseases' Addendum Guidelines for the Prevention of Peanut Allergy in the United States recommend utilization of OFCs to peanut in infants in specific circumstances and OFCs are an important tool to confirm tolerance in general when an IgE FA is suspect. OFCs are underused. A recently published American Academy of Allergy, Asthma & Immunology Abstract highlighting a Workgroup Report demonstrated time (70%), space (46%), staffing (52%), cost/reimbursement (37%), distance to hospital (11%), and lack of training (17%) as barriers to OFCs. At time of survey completion 40% did not offer peanut OFCs to infants and during fellowship, 30% performed no OFCs.¹

Parents of children with FA report increased educational needs at time of diagnosis, and deficits in parental knowledge and adherence have been reported.²⁻⁵ Barriers include inadequate education time, large amounts of information, and need to implement behavioral change, train the trainer, and correct misperceptions.⁵ Administering dietary guidance during infancy, when still advancing the diet, presents additional challenges.

PRACTICE SOLUTION: MASSGENERAL HOSPITAL FOR CHILDREN UTILIZATION OF GROUP INFANT/TODDLER OFCS

Group visits (GVs) have been used for primary and specialty visits in adult and pediatric populations. There is variability in visit types, conditions, and demographic characteristics of

patients. GV has been used throughout the country and can be modified to fit the needs of specific institutions, practices, or providers. Teams, space, and the group can leverage time to deliver care that surpasses what can occur with sequential visits (Table 1).^{7,8}

MassGeneral Hospital for Children has been using GV OFCs since October 2017 (>500 performed) and recently published on safety and outcomes.⁹ Groups of patients are homogeneous, with almost all younger than 3 years and cohorted by food. OFCs have been referred by a MassGeneral Hospital for Children allergist.

Group/family interaction is an important element of the GV model. It can provide improved learning/teaching opportunities, and opportunities to share emotional and social concerns, as well as provide and receive validation.⁶⁻⁸ There are also opportunities to network and learn from others' questions and approaches. FA management “conversations” are prompted by clinician lead, and relevant topics are covered after challenge build up is complete and before discharge. Families contribute to discussions and share their experiences, feelings, “tips/tricks,” and so forth under guidance of clinician lead.

GVs allow role-specific delegation of an interdisciplinary team, allowing decrease in redundancy and improved care coordination. Patient and staff interactions are visible to other team members, allowing for efficient communication. Structure can be variable, but typically clinician lead with 1 nurse for 2 patients for clinical function and nurse practitioner, RD, and 1 to 2 research coordinators for additional research support. All team members remain in close proximity. Specific roles allow for increased team efficiency. Having team members who are comfortable dealing with infants/toddlers and their families is critical in assessing patients and dealing with anaphylaxis.

The space where GV is conducted can offer beneficial aspects beyond traditional examination rooms. Space can afford different modalities of education (eg, dry erase boards), increased team efficiency, improved observation, and patient-specific environment. Three rooms that share a common corridor are used. Clinician lead has mobile workspace in the corridor directly in front of the 3 rooms. Each room has space for 2 patients including a procedure chair, play mat, and high chairs. Infant/toddler-specific equipment, supplies, medication, monitors, and a “rescue crib” are immediately available if needed. Having play mats, toys, and high chairs available has afforded the opportunity

MassGeneral Hospital for Children, Harvard Medical School, Boston, Mass
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Corresponding author: Michael Pistiner, MD, MMSc, MassGeneral Hospital for Children, Harvard Medical School, 275 Cambridge St, POB5, Boston, MA 02114.
E-mail: mpistiner@mgch.harvard.edu.

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TABLE I. OFC challenges and solutions provided by group model

Factor/issue	OFC challenge	Group OFC solution	Pearls and considerations
Time	Need adequate time to complete challenge and safely observe patient; can be 4+ h per patient	Multiple challenges can be done at once in same period of time	Will likely require dedicated clinician for increased challenges
Space	Need safe area to conduct challenge and observe patients for length of challenge with access to rescue bed and medications; can tie up rooms for length of each challenge	Consider utilization of infusion center, procedure bay, appropriate conference room, unused waiting room Allows for constant supervision	Avoid cross-contact and consider cohorting same foods COVID-19 precautions (see Table II) Have an available space for anaphylaxis management and prolonged observation Allow for option of nongroup alternative; give all participants time to discuss privately if requested; include GV information sharing ground rules before start; eg, “what happens in challenge stays in challenge”
	Physical needs of patients met for up to 4 h; eg, infants and toddlers may have issues with naps, be hungry, and have restlessness	Have extra diapers, food/vehicles, quiet space for nap, etc	Allow for individual challenges (opt out); discomfort in time of COVID-19
	Developmental needs met for up to 4 h. Traditionally confined in examination room for up to 4 h with idle time	Other children, play mats, high chairs, toys, etc can shift patient experience from “medical procedure” to more routine infant/toddler experience	Allow for individual challenges (opt out) if not comfortable with GV
Interdisciplinary team	Need staffing to implement feeding, monitoring, documenting, management	Specific roles of trained team members that decrease redundancy	Create standard work and train team members accordingly (eg, oral challenge workflow, managing anaphylaxis, family education, and materials)
Training	Lack of fellowship experience with OFCs	Can participate in multiple challenges during a single session	Can help achieve new ACGME requirements
	Lack of staff/trainee experience with anaphylaxis, infant and toddler behavior, and FA management education	Opportunities for supervised staff training for all roles	Interdisciplinary interaction and involvement in staff training is unique Opportunities to practice leading family education and “sharing sessions”
Access	Lack of access for OFCs can increase wait time for OFCs and further delay oral introduction of a potentially tolerated food	Able to complete several OFCs per session and improve access/decrease wait time	Last-minute cancellations can be a challenge
Reimbursement	Challenging to keep costs down as OFCs require high resource and staffing demands	Multiple OFCs per session can increase cost-effectiveness	No shows can be costly
Factor/issue	Education challenge	Group OFC solution	Pearls and considerations
Patient education	Inadequate education time, large amounts of information, and need to implement behavioral change, train the trainer, and correct misperceptions	Opportunities for educating all participants at once and maximizing active education time Benefits of the group include learning and teaching each other and collective efficacy ⁶ Group members managing well can share success and be role models Can use time to provide autoinjector training, label reading and cross-contact training, anaphylaxis action plan review	Prepare materials in advance Consider ensuring that all critical topics are covered (eg, use of check boxes and dry erase boards) Facilitate group discussion Opportunity to observe trainees delivering patient education to a group

ACGME, Accreditation Council for Graduate Medical Education; COVID-19, coronavirus disease 2019.

TABLE II. Group challenge COVID-19—specific policies and modifications

Factor	Pre-COVID-19	Current COVID-19 modifications	Future opportunities/considerations
Parent(s)	1-2 primary caregivers; no eating in challenge unit; waiting room available	1 primary caregiver only; mask at all times; no eating in hospital; waiting room unavailable	Telehealth option for additional parent/provider
Patient	No recent illness	MGH COVID Screen; masks if developmentally capable (>3 y)	PCR testing 72 h earlier
Staff	No restrictions on trainees	Surgical masks and splash shields/goggles; MGH COVID Screen; minimal numbers when possible; all trainees on hold until October 1 when fellows will return	Telehealth option for trainees
Space	Toys shared during challenge per parent discretion; 1 common play mat; rescue crib available	No toy sharing; separate mats with curtain drawn; Rescue crib available and single occupancy room available if needed	With increased telehealth utilization has come shifted space utilization and potential future opportunities to use outpatient clinic
Equipment	Albuterol nebulizer available	MDI with infant and toddler face masks; avoiding nebulizer use	

COVID-19, Coronavirus disease 2019; MDI, metered dose inhaler; MGH, MassGeneral Hospital.

for infants/toddlers to play and eat in a developmentally appropriate fashion, allowing the team to observe changes in behavior attributable to discomfort from a reaction as opposed to other factors. Coronavirus disease 2019 has necessitated new policies ensuring appropriate screening, masking, and social distancing (Table II). Additional considerations concerning sharing of information with neighboring families is giving nongroup options, allowing for opportunity to discuss privately when needed, and obtaining permission to discuss nonsensitive, pertinent medical information in proximity of other participants.

Taken together, the above can be leveraged to improve time management and staff training. The GV model has been shown to increase time spent with patients as a clinician, and team can care for more than 1 at a time without moving from room to room.⁸ Increased face time with patients and families can accommodate more time for health education in addition to addressing issues that would need attention at another visit. Our OFCs are scheduled on the same day of the week, given a 4-hour slot, and either morning or afternoon. For scheduling ease, all patients are scheduled to come in 30 minutes before “first bite” and for discharge at very similar times. This allows for addressing most of the group at a single time point instead of having 6 conversations in sequence. Group questions are encouraged, and all families are also encouraged to ask individual questions that can be addressed personally. Leveraged time provides ample opportunity for clinician-led FA management education in addition to specific patient management.

GVs allow for optimization in staff and trainee training. All roles of the interdisciplinary team can be observed, including the interactions of the trainee with patients, family, and other staff. The supervising clinician can model appropriate skills and decision making. This setting can also allow for opportunities to practice running family education and support sessions. Mass-General Hospital and Brigham and Woman's Hospital Fellows

are precepted, assist in up to 6 challenges in a single session, 12 in a day, and observe age-appropriate behavior of infants/toddlers that is important to take into account when performing OFCs. Other observers and trainees have also rotated through including visiting attendings, pediatric residents, pediatric nurse practitioners, and registered dietitians.

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