Patch Tests

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Barriers
1. Materials
2. Staff training
3. Documentation of patch tests
4. Antigen avoidance handouts
5. Products recommendations

I- MATERIAL

T.R.U.E. TEST vs. Chamber (Finn chambers and IQ chambers)
Application Device
Allergens: “standard”, “essential” and “additional” allergens
Scanpor tape
Skin markers
Adhesive removers

T.R.U.E. vs Chamber

- **T.R.U.E. Test**
  - Pros
    - FDA approved
    - Comes with patient handouts
    - Doesn't require specially trained staff
  - Cons
    - Limited allergens -23

- **Chamber**
  - Pros
    - Numerous allergens
  - Cons
    - Not FDA approved
    - Patient handouts not included
    - Requires specially trained staff dedicated to this task

T.R.U.E. vs. Chamber

- 28% of patients with ACD have all relevant allergens detected by T.R.U.E. test alone
- 72% have at least one relevant allergen which is not detected by T.R.U.E. test
I- MATERIAL : IQ Chambers:

- The IQ chamber is made of additive free polyethylene plastic.
- The IQ chambers are supplied in units of 10 chambers (in 2 rows of 5 chambers/row) on a hypoallergenic non woven adhesive tape.
- The tape with the chambers is protected by a stiff plastic cover with 10 compartments that correspond to the chambers on the tape.
- The volume of the chamber is 65 µl and the inside area of the chamber is 9x9 mm (81 mm²).
- The distance between the chambers is 12 mm in the row and 20 mm between the rows.
- The width of the tape is 68 mm and the length is 142 mm.

I- MATERIAL

- Chemotechnique:
  http://www.chemotechnique.se/index2.htm
- DORMER LABORATORIES INC
  91 KELFIELD ST. #5
  REXDALE, ONTARIO M9W 5A3 Country
  Canada Telephone +1-416-2426167
  Fax +1-416-2429487
  E-mail info@dormer.com
  Web address dormer.com/physicians/html/patch_testing.htm
  Distributor for United States Contact George Davy

I- MATERIAL : Application Device

- Specially designed for the IQ Chamber™.
- Help to prepare the IQ test units in order to save time.
- The patch tester can apply up to five (5) IQ test units at a time.

I- MATERIAL : Application Device

- When loading the IQ Chambers™ with allergens. The number strips on the application device, combined with fixed notches where the test units fit, reduces the risk of mistakes.
Open up the test unit by removing the tape from the plastic cover until all ten (10) individual chambers are displayed on top of the application device. The tape are not to be removed entirely, just enough to roll up the 10 individual chambers.

Apply thereafter the allergens into the plastic chambers (with the exception of liquid solutions for preparations in advance, as they will evaporate).

After having completed all individual IQ Chambers™ on the test units in one series, the prepared units can be sealed again by rolling back the tape on the plastic cover.

The test units should thereafter be put in a marked closed plastic bag and be stored in a refrigerator. The preferred method is to store the prepared test units in separate plastic bags, corresponding to the different series prepared and by numbers, e.g. NA1-10, NA11-20, etc.

The preparation of the patch tests in advance can be done up to two weeks before the patients visit the hospital/clinic.

Advantages:
1. The patients have to wait less time
2. The doctor/nurse can work under less stress; consequently the risk of making mistakes is reduced
3. As the loading procedure can be accomplished more efficiently, it will save time and thus be cost efficient
4. Patch testing can be performed outside the clinic/hospital, e.g. in factories

I- MATERIAL : Patch tests series

- Bakery Series B-1000
- Corticosteroid Series CS-1000
- Cosmetic Series C-1000
- Cutaneous Adverse Drug Reaction series CAD-1000
- Dental Screening DS-1000
- Dental Materials Patients DMP-1000
- Dental Materials Staff DMS-1000
- Epoxy Series E-1000
- Fragrance Series F-1000
- Hairdressing Series H-1000
- Isocyanate Series I-1000
- Leg Ulcer Series LU-1000
- Medicament Series ME-1000
- Methacrylate series (Adhesives, Dental & Other) MA-1000
**I- MATERIAL : Patch tests series:**

- Methacrylate Series (Nails-Artificial) MN-1000
- Methacrylate Series (Printing) MP-1000
- Metal Series MET-1000
- Oil & Cooling Fluid Series O-1000
- Photographic Chemicals Series P-1000
- Plant Series PL-1000
- Plastics & Glues Series PD-1000
- Rubber Additives Series R-1000
- Scandinavian Photo Patch Series SP-1000
- Shoe Series SH-1000
- Sunscreen Series SU-1000
- Textile Colours & Finish TF-1000
- Various Allergens V-1000
- North American Series (July-06) NA-1000

**I- MATERIAL : Essential Series**

1. North American Series (July-06) NA-1000
2. Cosmetic Series C-1000
3. Metal Series MET-1000
4. Dental Screening DS-1000
5. Fragrance Series F-1000
6. Plastics & Glues Series PG-1000
7. Rubber Additives Series R-1000

**I-Materilals: Marking system**

- Gentian violet solutions
- Castellani’s paint
- Similar dyestuffs
  - We use Chemotechnique marker for the skin

**I-Materials: Adhesive Tapes**

- Scanpor Tape
- Allerdem lab
- Blenderm
- 3M company

**Material: Adhesive removers**

- Uni-Solve Adhesive Remover
  - Active ingredients 1,1,1, trichloroethane
  - United, division of Howmedica, Inc., 11775 starkey Rd., Largo, FL 33540
- Hollister Adhesive Remover
  - No. 7731, 6-oz Spray can
  - Contain fluorocarbon
  - Hollister, Inc., 211 east Chicago Ave., Chicago, IL 60611
- Detachol
  - Ferndale Laboratories, 780 w. Eight Mile Rd., Ferndale, MI 48220

**I- Material: Adhesive Tapes**

Whatever paint is used, it should be reapplied at the time of patch test reading, and also when delayed reading are performed, so that the sites of any delayed positive can be identified precisely.
II- STAFF TRAINING

Open up the test unit by removing the tape from the plastic cover until all ten (10) individual chambers are displayed on top of the application device.

II- STAFF TRAINING

Apply the liquid allergens into the plastic chambers (AQ), we kept these empty when we prepared the test units earlier.

II- STAFF TRAINING

The lower portion of the test strip is adhered first, then work the way up.

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II- STAFF TRAINING

Mark the skin:
- Upper right corner (series name)
- Upper notch
- Lateral and lower borders of the test strip

Mark the skin:
- Upper left corner (series name)
- Upper notch
- Lateral and lower borders of the test strip
- Antigen number at the upper left corner and the lower right corner of the test strip

Mark the skin:
- Upper left corner (series name)
- Upper notch
- Lateral and lower borders of the test strip
- Antigen number at the upper left corner and the lower right corner of the test strip

Aids in adhesion

Extra adhesion can be obtained by spraying a pressure-sensitive silicone adhesive to the upper and lower exposed adhesive edges of the tape (Hollister Medical Adhesive No. 7730, Hollister Inc., 200 Hollister Dr., Libertyville, IL 60048)

Military “attention” posture during application of patch tests to upper back

The lower portion of the test strip is adhered first, then work the way up.

Patch tests should not be applied to the area directly over the vertebrae
II- STAFF TRAINING

- Before removing the strips, make sure the skin is marked at each strip for:
  - Upper left corner (series name)
  - Upper notch
  - Lateral and lower borders of the test strip
  - Antigen number at the upper left corner and the lower right corner of the test strip
- After removing each strip, connect the lines with the skin marker as in the photo.

III-DOCUMENTATION

- In Health Connect: (electronic)
  - Use my smartphrases: .trayNA (for North America), .trayC (for Cosmetics)
- In the clinic: (papers)
  - Use the forms from Chemotechnique website

Patch Test Morphology Codes Used for Recording Results

- 1 = Weak (non-vesicular) Reaction
  - Erythema, infiltration, possibly papules (+)
- 2 = Strong (edematous or vesicular) Reaction
  - (++)
- 3 = Extreme (spreading, bullous, ulcerative)
  - Reaction (+++)
- 4 = Macular erythema only
- 5 = Irritant morphology
- 6 = Negative Reaction (-)
Morphology code: 1 = Weak (non-vesicular) Reaction Erythema, infiltration (slight), possibly papules (+)

Morphology code 2 = Strong (edematous or vesicular) Reaction (++)

Morphology code: 3 = Extreme (spreading, bullous, ulcerative) Reaction (+++)

Readings

Interpretation

48 hours 72 hours or later
+ + Allergic
- + Allergic
+ - Irritant
- - Negative

Doubtful Reactions

- Mild responses (+/-) may also suggest allergic reactions
- Reevaluate the history and repeat patch test or consider open use test
False Negative
- Failure to test to the proper antigen
- Failure to test for photoallergy
- Concentration too low
- Inactive allergen
- Improper technique
- No delayed reading

Do a Delayed Reading!
- One-third of reactions missed by not doing so!!!

IV- Antigen Handouts and Avoidance
- Handouts are available on Chemotechnique web page
- It is much easier to import my smartphrases to patient instructions in Health Connect:
  - http://dms.kp.org/docushare/dsweb/View/Collection-128238
  - Patient is positive to antigen#12 of North America; .trayNA12
  - Positive to antigen#15 of North America and antigen #12 of Cosmetic; .trayNA15, .trayC12

V- Products Recommendation:
- CARD "Contact Allergen Replacement Database"
- You have to be a member of American Contact Dermatitis Society (ACDS) to use CARD
- American Contact Dermatitis Society
  138 Palm Coast Parkway NE #333, Palm Coast, FL 32137
  (386) 437-4405
  info@contactderm.org
- A shopping list “free of specific allergens” can be created and printed from CARD, I copy that to patient instructions
Allergen Avoidance - CARD

- Enter known allergens
- Generates list free of allergens/cross-reactors
- Increases compliance and ease of education
- >1800 products in database
- Available since 2000