Introduction
The goal of this research project was to analyze how mechanically and visually damaging cleaning with Absorene dirt erasers, grated Staedtler Mars Plastic eraser, Absorene latex cosmetic sponges, and Mr. Clean Magic Erasers was to acrylic paint films on canvas, masonite, and blanket. In addition to examining cleaning methods, the influence the support the acrylic paint was on and the size of the pigment particles had on the amount of damage caused during cleaning was analyzed.

Experimental
The samples consisted of Golden titanium white acrylic paint and Golden phthalocyanine green acrylic paint applied over Golden gesso on cotton canvas, masonite, and blanket. They were cleaned following the brush strokes with Absorene dirt erasers, grated Staedtler Mars Plastic eraser, Absorene latex cosmetic sponges, and Mr. Clean Magic Erasers wet and dry (Fig 1-4). The samples were then photographed with the SEM before and after cleaning under various magnifications. Any changes in color and gloss were measured with a Minolta Chroma Meter colorimeter and a BYK-Gardner micro-TRI-gloss glossmeter.

Results
All the cleaning methods caused some mechanical damage to the paint film from removing paint and leached paint products to leaving scratches in the paint film.

On the blanket support, paint appeared to have actually been removed from raised threads during cleaning with Absorene dirt erasers and Absorene latex cosmetic sponges (Fig. 5).

The Mr. Clean Magic Eraser caused scratching to any raised area especially when dampened. Absorene dirt erasers also appeared to cause scratching (Fig. 6-8).

The Staedtler Mars plastic eraser appeared to cause more holes to form in the surface of titanium dioxide white paint film on canvas (Fig. 8-9)

The Staedtler Mars plastic eraser, Absorene dirt eraser, and the Absorene latex also appeared to remove surfactant and leached residue from the phthalocyanine green paint on the blanket support (Fig. 10-11)

The erasers and sponges did affect gloss and color on some of the samples. Overall, the average gloss decreased after cleaning with many of the values outside the margin of error. There were also a few color shifts, becoming lighter, mostly with the titanium dioxide white paint.

Conclusions
Care should be taken when choosing an eraser or sponge to clean acrylic paintings. The type of support should be taken into consideration. On rougher porous supports a sponge or eraser might not be an appropriate cleaning method due to the amount of debris left behind and the possibility of damaging the threads of this type of support. Also, cleaning with abrasive methods seems to affect different paints slightly differently. Titanium dioxide white appears to be more affected color wise by cleaning where as phthalocyanine green appears to have more physical damage. Mr. Clean Magic Erasers should not be used to clean acrylic paint films.

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